

and occasional meetings convened by the fuel officers enable ideas put forward in one shop to be helpfully communicated to others. The Ministry of Fuel & Power will, we understand, be publishing Mr. Bennett's remarks as a Fuel Efficiency Bulletin with the title "The Appointment & Responsibilities of Fuel Watchers."

The "Federation"

The British Electrical Federation Limited, the central organisation which provides services to the passenger road transport, electricity supply, and other companies associated with the British Electric Traction Co. Ltd., has changed its name to the B.E.T. Federation Limited. It was constituted in its present form in 1907 when the main B.E.T. interests were in tramway and electricity supply undertakings. With the gradual replacement of trams by buses, the main B.E.T. business today lies in the provincial bus industry (although there are still substantial interests in electricity supply)—hence the alteration of the name of the Federation. The new name, while more closely identifying the organisation with the parent company by the use of the initials "B.E.T.," still retains the word "Federation," by which it has become so well known in the industry. The work of the Federation, and its development from earlier voluntary committees, the first of which was established in December, 1898, were described in an article at pages 689-90 of our issue of October 22, 1937. So far as we are aware, this is the only published account. Apart from its public utility and other interests, the B.E.T. group comprises the largest group of passenger road transport undertakings in Great Britain, the total number of vehicles owned by the group being between eight and nine thousand. The companies operate over a vast area extending from Durham in the North East, and Cumberland and Westmorland in the North West, to Kent and Sussex in the South East, and Devonshire in the West. The number of persons employed by the companies included in the group aggregates some 35,000, and the total issued capital of the operating companies exceeds £18,000,000. Mr. R. J. Howley, C.B.E., Chairman of the B.E.T., is President of the Federation, and Mr. Sidney Garske, C.B.E., a Director of the B.E.T., is Chairman of the Executive Committee.

Prophets—True and False

Three years ago, when the war in Europe had just begun, and the American Government, foreseeing the possibility of being involved, was making a survey of its resources, the Secretary of the Treasury, Mr. Morgenthau, asked the railways how large an increase in freight traffic they thought they might be able to handle if the emergency arose. The answer was given jointly by the late Mr. Daniel Willard, the then President of the Baltimore & Ohio, and the late Mr. Carl R. Gray, then Vice-Chairman of the Union Pacific. These two authorities submitted a report that, with locomotives and stock in the numbers and condition in which they existed in May, 1939, the railways could deal with an increase of 50 per cent. in freight traffic and that an increase to 55 per cent. would be practicable if all their equipment were put into first-class running order. This meant handling a traffic equal to that of the peak year, 1929, with 350,000 to 400,000 fewer freight wagons. Prominent "New Dealers" in Washington ridiculed the report, pressed for the building of 500,000 wagons immediately and a proportionate number of new locomotives, and prophesied that, if the United States became involved in the war, private railway operation would break down because of the blindness and stupidity of the railway managements, so making government operation essential. What has happened since the United States entered the war in December, 1941? With unchanged private management, the American railways in August, 1942, handled 150 per cent. more freight traffic than in May, 1939; in the whole of 1941 they moved 5 per cent. more traffic than in 1929, and with 562,000 fewer wagons, and nearly 6,000 fewer locomotives. It is unfortunate indeed that neither of the authors of the railway report lived to see this triumphant vindication of their claim, or the rout of their critics.

Working Hours on Indian Railways

There are or were last year about 610,000 workers employed on the eleven Class I, or main-line railways in India, of whom 80 per cent. are covered by the Hours of Employment Regulations and all come under the International Railway Conventions. The men under these regulations are divided into two groups, the "continuous workers" and the "essentially intermittent workers." The hours prescribed for each group are 60 hr. a week for the former and 84 hr. for the latter. All employees except the "essentially intermittent" are entitled

to a rest period of not less than 24 hr. continuous rest each week, and on most railways many enjoy a calendar day's rest amounting, in practice, to more than 24 consecutive hours off duty. As is only to be expected in wartime, there is a considerable amount of working outside rostered hours, but this practice is not the fault of the railway administrations, as it depends on circumstances over which they often have no control. As well as the railway unions, which watch the men's interests and the enforcement of the Hours of Employment Regulations, there are a "Conciliation Officer (Railways) & Supervisor of Railway Labour" and his inspectors, appointed by the Government to insure that railway labour is safeguarded under the regulations. This official is usually a senior Government Railways officer specially seconded for the purpose. One of his principal functions is to inquire into border-line cases of classification of staff, as between the supervisory grades and those enjoying the benefits of the regulations. Usually, the matter is settled between him and the railway administration, but should their opinions differ, he refers the case to the Government for its final decision, which generally follows his recommendation.

Changing Rails on Curves

A time-honoured practice in permanent way maintenance is that of transposing rails on curves, in order as far as possible to equalise the rail wear. The high or outside rail of a curve carrying heavy traffic, or on a steeply-inclined section on which wear from locomotive driving wheels is severe, suffers from side-cutting, wearing away at an angle roughly corresponding to that at the junction between the tyres and flanges of the wheels; the head of the low or inside rail, carrying more than its normal proportion of weight, tends to spread or to corrugate. In a recent issue of our American contemporary *Railway Engineering & Maintenance* an interesting correspondence was published concerning the factors governing this transposition. Opinions differed as to whether the wear of the outer or inner rail should be the governing factor. A division engineer of the Baltimore & Ohio Railroad, claiming that the wear of the outer rail is considerably accelerated after the running edge has been worn to a close fit with the average tyre profile, argued that transposition should take place before this stage is reached. A track engineer of the Chesapeake & Ohio, however, contended that with the use of track oilers for the outer rail on curves, the inner rail is the first to show wear, and that transposition should take place immediately the latter begins to show signs of spreading of the rail-head. These authorities considered that the outer rail, when transposed to its new position as the inner rail, should last in its new position as long as, if not up to twice as long as new rail laid on the inner side of the curve, because of the benefit that it has received from cold rolling. Other engineers argued that each curve should be considered on its merits, as heavy loads at low speeds will cause the inner rail to wear the more rapidly, whereas lighter loads at higher speeds will affect the outer rail first. A track supervisor considered that a definite standard should be laid down for both high and low rail as to the maximum loss of weight before transposition becomes obligatory.

Railway Timber Preservation

Approximately two-thirds of the timber in the United States which is subjected to preservative treatment is for the use of the railways, and nearly half the railway total consists of sleepers. Of the timber used for sleeper purposes, oak takes first place; in 1941, 47½ per cent. of the consumption was in oak sleepers, 19 per cent. in Southern pine, 9 per cent. in Douglas fir, and 7½ per cent. in gum. Various preservative methods are in use. During that year 61 per cent. of American sleepers were treated with creosote, or emulsions of creosote and coal tar; 37 per cent. were impregnated with mixtures of creosote and petroleum; 2 per cent. were treated with zinc chloride or chromated zinc chloride; pressure treatments were used in all cases. The total number of sleepers subjected to preservative treatment in 1941 was nearly 29,000,000; of these 57½ per cent. were adzed and bored before treatment, 31 per cent. were neither adzed nor bored, and the remaining 11½ per cent. were adzed only. Next to sleepers, which on a cubic capacity basis form 45 per cent. of the preserved timber used by the railways, come poles, amounting to 28 per cent.; timber piles amount to 7 per cent., construction timbers (for the construction of trestles and other structures) to 5 per cent., and the large timbers used in switch and crossing construction to 3½ per cent. Out of the 230 United States timber treatment plants now in active operation, only 23 are owned and worked by the railways themselves, and the majority of railways purchase their timber in its treated condition. The consumption of creosote in the U.S.A. in 1941

each year off control. As it is, the interests of the government, as well as those of the railway, should be considered. The Railways (Demurrage Charges) Order in December, 1939, for the purpose of accelerating the turn-round of wagons, the free periods were drastically reduced and the demurrage charges substantially increased. The Minister gave an assurance, however, that the Order would be administered with due regard to any genuine difficulties which traders might experience, provided they could show that by the institution of a proper control of their forwarding arrangements and, where necessary, the re-organisation of their unloading and storage arrangements, they had taken all reasonable steps to adjust themselves to the needs of the situation. The revised regulations did not apply, however, to wagons used for the conveyance of coal, coke, or patent fuel where their operation is regulated under a control system agreed between the traders and the railway companies and approved by the Minister.

L.N.E.R. New Mixed-Traffic Locomotive

That extensive manufacturing resources should be devoted in such a time as the present to the building of locomotives is a striking indication of the importance attached by military and civil authorities to railway transport under war conditions. The evidence now is that locomotive building, after having suffered something of a decline, is to experience a revival both in this country and in America. A revival of the same kind was recently reported by us to be occurring in enemy-occupied Europe also. In general the engines now being built are of the "austerity" or utility type, without refinements, and with many of the parts made by labour- and material-saving methods not hitherto considered suitable for locomotive work. British, American, and German varieties of utility engine have already been described in our pages and, elsewhere in the present issue, will be found a description of yet another engine of wartime design. This is a new 4-6-0 mixed-traffic tender locomotive recently constructed and placed in service by the L.N.E.R. It is not claimed for this particular design that it is in the "austerity" class because, although all reasonable steps have been taken to economise in materials and labour, one of the chief aims kept in view was to produce a utility engine which should be commercially efficient enough to be adopted as a standard type after the war.

The Southern Pacifics

Now that the "Merchant Navy" class Pacific locomotives of the Southern Railway have settled down to their work, which is performed mainly over the heavy grades between Salisbury and Exeter, they have begun to show their capabilities in no uncertain fashion. "Teething troubles" were hardly surprising, in view of various considerable divergencies from traditional practice embodied in the design; but most of these now appear to have been overcome, and apart from some tendency to slip on starting, which these engines share with several other British high pressure classes, the work that they are doing is very competent. In the November and December issue of our associated monthly, *The Railway Magazine*, the "British Locomotive Practice and Performance" feature is largely occupied with a description of the performance of the streamlined 4-6-2s west of Salisbury, where their increased tractive power, as compared with the "King Arthur" 4-6-0s, has been most welcome in handling the heavy traffic of the past summer. In the war timetables, most of the express trains on this route have numerous intermediate stops, in a number of cases with acceleration from rest to be made up steep gradients, and with tight point-to-point timings, and it is here that the Pacifics are seen at their best. Examples are given in the article of acceleration up a long 1 in 70 grade from a dead start to 30 m.p.h. with a 490-ton train; of 2½ miles at 1 in 80-100 climbed with 370 tons at a minimum of 56 m.p.h., and of 2½ miles at 1 in 80 surmounted with the same load at 41 m.p.h.; and we also have noted an average of 60.7 m.p.h. maintained up the long grade from Chard Junction to Hewish Summit with a 285-ton train. Downhill work is no less spectacular, and despite their 6 ft. 2 in. wheels the 4-6-2s have shown themselves capable of sustained speeds up to 90 m.p.h. on suitable stretches of line.

First Steps in Planning

Not long ago we read an account of the evening recreation of a family in the planned post-war world. Father and Mother, portrayed as amiable but slightly redundant relics of a bygone age, were pottering about performing simple domestic duties suited to their limited experience. Big brother George was thrashing out a scheme for a United States of Europe. Sister Susan was planning a communal kitchen. Little Willy, who had won a scholarship to an architectural college, was designing a new St. Pancras Station. We felt that little Willy was put in as an afterthought to give transport a show, and that the author of the article thought so uninspiring a subject should not be allowed to engage the attention of the more mature members of the family circle. St. Pancras was clearly a mere jumping-off ground for inexperience, and we have no doubt that when little Willy has progressed by easy stages through the execution of a marble-paved concourse at Willesden Junction and a functionalist booking hall at Finsbury Park he will be promoted to some more serious task such as the building of a Butlins-esque recreation centre at Brighton.

Wagon Standage Scheme

THE impact of war conditions on the British railways has been responsible for a number of changes in their pre-war operating and commercial practice. One of these is the introduction of a wagon standage scheme for the purpose of economising clerical labour and in view of its far-reaching implications and post-war possibilities, it may be useful to recall the circumstances in which it was introduced and outline its main features. The raising of demurrage charges on individual railway wagons and their collection have always involved a very considerable amount of clerical work and for many years caused difficulties with traders. When the Minister of Transport issued the Railways (Demurrage Charges) Order in December, 1939, for the purpose of accelerating the turn-round of wagons, the free periods were drastically reduced and the demurrage charges substantially increased. The Minister gave an assurance, however, that the Order would be administered with due regard to any genuine difficulties which traders might experience, provided they could show that by the institution of a proper control of their forwarding arrangements and, where necessary, the re-organisation of their unloading and storage arrangements, they had taken all reasonable steps to adjust themselves to the needs of the situation. The revised regulations did not apply, however, to wagons used for the conveyance of coal, coke, or patent fuel where their operation is regulated under a control system agreed between the traders and the railway companies and approved by the Minister.

Shortly after the issue of the Order, the iron and steel trade represented that any material improvement in the release of wagons used by them was impracticable and the revised demurrage charges would mean only a heavy addition to their transport costs without the possibility of their gaining any advantage. Lengthy negotiations followed with the Railway Executive Committee and experimental tests were made at certain iron, steel, and chemical works dealing with large quantities of raw materials for blast furnaces, coke ovens, and steelworks, passing wholly or mainly in requisitioned wagons which, as privately-owned wagons, would not have been subject to demurrage before requisitioning. As the result a voluntary arrangement became operative as from March 31, 1941, under which a standage payment was made, representing the average cost to the railways of requisitioned wagons in lieu of demurrage, for such wagons standing in the sidings at blast furnaces, chemical works, and so on, in excess of an agreed number. This incidentally necessitated the issue of an amending S.R. & O. by the Minister of Transport on April 2, 1941, as the original Order did not authorise such schemes.

Comparatively few firms took advantage of this arrangement because of its limitations as to traffic, and so on, and, after lengthy negotiations, the Ministry of War Transport approved in October, 1942, the adoption of comprehensive standage schemes by agreement as from November 2, 1942, between the railway companies and firms which are members of the British Iron and Steel Federation or affiliated associations. The schemes apply to all inwards and outwards loaded wagons and empty wagons supplied for outwards loading up to 21 tons capacity inclusive (22 tons in the case of iron ore wagons) other than certain special types, and wagons of 15 tons capacity and over are treated as 1½ wagons. The arrangements provide for a census to be taken at an agreed time daily of the aggregate number of loaded wagons standing (a) in their firm's works, (b) on railway sidings adjacent to works and waiting acceptance by works, (c) detained at intermediate points due to works' inability to accept, and empty wagons supplied to order of works for outwards loading, which are counted on day of supply only. These figures are totalled for the week and termed wagon days and, if the total number of wagon days is more than one-third greater than the total number of wagons discharged at the works plus the number of loaded wagons labelled and made available to the railway company for dispatch during the week, then a standage charge has to be paid for the excess number of wagon days at rates ranging from 2s. to 3s. 9d. a wagon a day according to the type of works concerned. Each week stands by itself and no allowance or credit is given if in any one week the number of discharged and dispatched wagons is more than one-third greater than the aggregate number of inwards wagons. These standage charges are in substitution for the demurrage charges imposed by the original Order. Similar arrangements were introduced in January, 1943, in respect of various chemical works which have private sidings and the standage charges which are based on separate tests made at individual works vary from 1s. 8d. to 4s. 6d. a wagon a day. It will be realised that the scheme, which deals with

wagons in total and not individually, saves very considerable clerical costs as compared with the normal practice of raising demurrage charges on every individual wagon and is of considerable benefit to railway companies and traders alike, in addition to which correspondence in respect of disputed items is avoided. The standage charge has to be paid irrespective of the circumstances in which the wagons are detained, but it will be appreciated that traders, in effect, obtain credit for wagons discharged in less than the standard free time allowable under the Minister's Order. The scheme is intended primarily for operation at works which have fairly large and constant flows of inwards traffic and if it is found to be satisfactory it may well become a permanent feature of railway practice.

Home Railway Revenues for 1942

THE recent sustained rise in the quotations for the junior stocks in particular, of all the main-line railway companies, has been occasioned by widespread demand, based as much on the generous yields that are obtainable as on continued talk of the possibility of small increases in the forthcoming dividends on such securities as Great Western and L.M.S.R. ordinary, and L.N.E.R. second preference stocks. It has also been suggested in some quarters that a fractionally better payment may be forthcoming on Southern deferred ordinary. Until at least one year after the war recent dividend payments will be assured under the terms of the agreement with the Government, and that the yields of home railway stocks are in excess of those on any other group of active securities which enjoy anything like the same backing. The dividends in respect of 1942 will be made known next month; the present arrangements are that the L.M.S.R. board should make known its decision on February 12, and on February 18 the Southern and L.N.E.R. announcements should be forthcoming. The Great Western dividend announcement is planned for February 19.

In present circumstances, most of the data on which boards will have to make their decision are known. The only major factor outstanding is the amount of the non-controlled revenues—receipts which do not come within the financial agreement with the Government, such as investments in road transport undertakings and Irish railways—and although this may have risen in the past twelve months, for the purpose of calculation, it is probably safer to assume it at about the level it was returned a year ago, except perhaps in the case of the L.M.S.R. when the rise was so steep that it is probable a further substantial increase has occurred during last year. In theory, at least, there is scope for improvement in the junior stocks of all the companies. The Great Western Railway, which a year ago made up its payment on the ordinary stock to 4 per cent. for the year, might possibly increase its payment to 4½ per cent. A year ago it will be recalled the earnings on the ordinary were approximately 5 per cent. It would appear possible that the revenues of this company might be absorbed as follows:—

GREAT WESTERN RAILWAY

Payment by Government	£
Non-controlled revenue, say	6,670,603
	300,000
Deduct	
Interest on loans and debenture stocks	6,970,603
	1,650,000
Deduct	
Dividends on guaranteed and preference stocks	5,320,603
	3,340,000
Balance available for ordinary stock	1,980,603
4½ per cent. would absorb	1,921,000
Leaving a balance of	59,603

In the case of the London Midland & Scottish Railway Company, allowance has to be made for a continuation of growth in the non-controlled revenue, and for the purpose of the table below we have included a figure of £800,000 to cover this item. On this basis it would seem that the directors could pay a dividend of 2½ per cent. on the ordinary stock, which would compare with 2 per cent. a year ago, when earnings were some 2·9 per cent.

LONDON MIDLAND & SCOTTISH RAILWAY

Payment by Government	£
Non-controlled revenue, say	14,749,698
	800,000
Deduct	
Interest on debenture stocks	15,549,698
	4,439,000
Deduct	
Dividends on guaranteed and preference stocks	11,110,698
	8,475,000
Balance available for ordinary stock	2,635,698
2½ per cent. would absorb	2,618,000
Leaving a balance of	£17,698

On the London & North Eastern Railway Company, the second preference stock, which received 2½ per cent. for 1941, a fractional improvement to 2½ per cent., may well be possible, as is shown in the following table:—

LONDON & NORTH EASTERN RAILWAY

Payment by Government	£
Non-controlled revenue, say	10,136,355
	500,000
Deduct	
Interest on debenture stocks	10,636,355
	4,216,000
Deduct	
Dividends on guaranteed and 1st preference stocks	6,420,355
	4,560,000
Balance available for 2nd preference stock	1,860,355
2½ per cent. would absorb	1,826,000
Leaving a balance of	£34,355

For the Southern Railway the hope is entertained that the deferred stock may receive 2 per cent. for last year, which would compare with 1½ per cent. for 1941, when 1·8 per cent. was earned on this stock. The data by which this is arrived at are given below:—

SOUTHERN RAILWAY

Payment by Government	£
Allowance of interest on £7,500,000	6,607,659
Non-controlled revenue, say	300,000
	180,000
Deduct	
Interest on annuities and debenture stocks	7,087,659
	2,243,000
Deduct	
Dividends on guaranteed and preference stocks	4,844,659
	2,751,000
Deduct	
Dividend on 5 per cent. preferred ordinary stock	2,093,659
	1,379,000
Balance available for deferred stock	714,659
2 per cent. would absorb	629,800
Leaving a balance of	£84,859

In arriving at these calculations it has not been possible, of course, to take into account any decisions which the directors may make as to allocation of funds to reserves, or to meet post-war contingencies. On the other hand, it is not unlikely that in some cases non-controlled revenues will be greater than have been budgeted for in the calculations. There can be little doubt that when the full figures relating to railway operations in 1942 are made available in the course of the next few weeks, it will be clear that the Exchequer will receive an even better return than it did a year ago, when some £22,000,000 accrued to it from the railway pool of revenue.

Railways and A.R.P.

AMONG the many additional responsibilities imposed on the railway companies by war conditions has been the formulation of adequate A.R.P. schemes for the protection of railway property against enemy action. This has entailed a great deal of careful organisation on the part of both headquarters staff and local officials, and it is not always realised how difficult and complex have been the problems with which the companies have been faced. The task of providing the required measure of protection at a large railway centre, with its many scattered buildings, including separate goods and passenger stations, engine sheds, offices, warehouses, and so forth, obviously has presented problems far more difficult than those encountered in the protection of an ordinary business undertaking where the premises are more compactly situated. Precautions against fire were of prime importance and peacetime fire brigades accordingly have been strengthened and trained to meet the special needs of wartime conditions. Trailer pumps have been supplied at all the principal stations and numerous static water tanks are located at strategic points for the purpose of supplementing the ordinary supplies and forming a reserve in the event of the latter not being available. Intensive training in the use of the pumps has been provided for the fire-squads and arrangements have been made to ensure that a sufficient number of fully trained men is always available. Railwaymen of all grades have proved apt pupils in fire-fighting and already have a number of fine achievements to their credit. First-aid for the injured has always been a popular feature with railwaymen and the A.R.P. schemes at all large railway centres naturally include

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well-equipped first-aid posts manned by trained squads who have been specially instructed in the treatment of air raid injuries. Gas cleansing stations have been established at many points, and demolition and decontamination squads have also been formed.

Apart from the establishment of fire, first-aid, and demolition squads the preparation of railway A.R.P. schemes has involved numerous other arrangements, including the appointment of air raid wardens and the construction of shelters and emergency control centres. At many important centres roof spotting posts have been established and numerous railwaymen have become experts at identifying all types of aircraft under difficult conditions. The railway companies have also had to conform to the requirements of the Fire Prevention (Business Premises) Orders at stations situated in prescribed areas. This has naturally resulted in a vast amount of detailed work, including the location of fireguard posts at strategic points, the allocation of rest room accommodation, provision of the necessary amenities, the regular distribution of clean blankets, and the cleaning of soiled articles. The rostering of railway staff for fireguard duty is by no means easy; varied turns of duty and uncertain hours, particularly in the case of trainmen, tend to make the preparation of fireguard rosters a difficult and complex matter requiring the close attention of staff well versed in local conditions. Generally, however, the staff has responded with gratifying loyalty to the requirements of the situation and thousands of railwaymen are regularly performing this valuable duty. Recent legislation provides for the systematic instruction and training of fireguard personnel by qualified instructors, and arrangements accordingly are being made by the railway companies to ensure that all railway employees are given the requisite training, which in many cases will be conducted by their own qualified staff.

of 1938 to 1940, but that in 1941 a sharp upward turn took place, as, for example, in gross receipts—323 million francs in 1938, 398 in 1940, and 455 in 1941. The division of the passenger receipts has been interesting. General traffic (single, return, Sunday, and round-trip tickets) has amounted in these three years to 90.2, 84.4, and 95.3 million Swiss francs, respectively; group tickets (schools, societies, and families) to 9.8, 3.3, and 7.4 million; season tickets to 18.3, 18.9, and 27.3 million; military tickets to 0.2, 17.8, and 15.4 million; and other traffic, including supplements for express trains, to 13.5, 11.9, and 16.2 million. Among these groups, perhaps the most remarkable increase has been in that of season-ticket holders, from 1940 to 1941, by more than 44 per cent. The outstanding decline, of course, has been in international passenger traffic, which has diminished by 96 per cent.; the loss on through tickets issued by agencies alone is about 9 million francs, in round figures, and the loss on all descriptions of international tickets about 15 million. As to passenger-km., before the last war a total of 9,334 million was reached in 1913, and this shrank to 2,014 in 1920; by 1930, largely as a result of electrification and consequent acceleration, there had been an increase to 3,029 million. Then came the traffic depression, with a decline to 2,707 million in 1935, but by 1938 there had been a slight recovery, to 2,867 million. By 1940 the total had increased to 3,159, and by 1941 a far more rapid increase took place, resulting in the record total of 3,816 passenger-km., 33.1 per cent. above the 1938 figure. It will be interesting to see if still further increases are possible in present war conditions.

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The War and Swiss Railway Traffic

IN the present war the Swiss Federal Railways are in a position far different from that of 1914-19. The difference is due partly to the fact that in the last war practically the whole of the working was still with steam, and supplies of coal from both France and Germany were well-nigh cut off; this condition precipitated the first Swiss main-line electrification, on the Gotthard route. Electrification since has been so rapid that, with the exception of a few unimportant branches, the working is now entirely electric; and with hydro-electric generation virtually the only limit to carrying capacity is the rolling stock available. The second explanation of the difference is that Switzerland, a neutral island amid a sea of Axis belligerents, provides the most direct route between two of the latter, and thus is pressed heavily in the carriage of freight, especially coal. Added to this, much Swiss manufacturing is at its highest productive level, with consequent heavy freight traffic; and acute shortage of petrol has driven a great deal of internal passenger traffic from road to rail. Thus, whereas during the war of 1914-19 Swiss railway traffic receipts showed a steady decline, during the present war there has been a steady increase of such magnitude as to put all previous traffic records in the shade. For example, whereas gross receipts in 1916 were only 90 per cent. of those in 1913—the last full peacetime year—those in 1941 were 141 per cent. of the 1938 figure; and the comparison is still more favourable in the present war than in the last in view of the fact that, whereas in 1916 working expenses were still 97 per cent. of those in 1913, those of 1941 have increased only 14 per cent. over the 1938 level, as compared with the 41 per cent. increase in receipts. Increased freight traffic is mainly responsible for more than doubling the traffic receipts of the 1913-16 period in the present war; passenger receipts, which fell from 85.8 to 63.8 million Swiss francs from 1913 to 1916, have risen from 132 to 163 million from 1938 to 1941. The difference between 63.8 million in 1916 and 132 million in 1938 is an eloquent testimony to the value of electrification.

The result last-mentioned has been achieved despite successive reductions in tariffs. For example, the average earnings a passenger-km. in 1913 were 3.68 centimes, and by 1920 they had risen to 6.16 centimes a passenger-km., but by 1938 the return was 4.60 centimes, and, by 1941, 4.24 centimes, or 78 per cent. of the 1920 figure. Examination of the statistics shows that in the last war the most depressed year was 1915, and that in 1916 the tide was just turning; that in the present war the increase was relatively gradual from the last full peacetime year

Propaganda for Post-War Overseas Travel

THE annual report of the Travel & Industrial Development Association of Great Britain & Ireland refers to its relationship with the British Council and to the division of their respective functions. It also mentions that the inter-departmental committee, set up to consider the post-war activities of the association, expressed the hope that funds would be available at the right time and in a sufficient quantity to enable the latter's post-war work to be carried out successfully. The Travel Association's efforts to bring visitors to this country were embarrassed continually before the war by the lack of a sufficient subsidy; our future economic position will make our need for overseas visitors greater than ever. Nearly 25 per cent. of our pre-war imports were paid for by the return on foreign investments; and, as these have been sold to a great extent for war purposes, we shall have to look elsewhere for the necessary *quid pro quo* if our imports are not to fall. It may be, of course, that our standard of living will have to be reduced to balance smaller imports; but, on the other hand, by increased exports and increased invisible exports, such as tourists, we may bridge the gap.

The memorandum of the Association of British Chambers of Commerce on the formation of a well-equipped foreign-sales service, through properly-trained representatives, was referred to in our issue of October 2, 1942. On its industrial side, the Travel Association might be in a position to assist these salesmen, and, assuming funds to be sufficient—to provide offices to advise and help them in those cities in which the demands of travel propaganda would necessitate a British centre. Indeed, in the immediate post-war period, it is likely that help to commercial salesmen may transcend in importance the work of trying to induce temporarily-impoorer visitors to travel in ships and air liners which are in short supply and which may well bear signs of hasty improvisation from war uses.

There is, also, an interesting line of thought in the question as to how much semi-government agencies should concern themselves in the next generation of travellers. A great many of the visitors to Great Britain and Ireland come from other parts of the British Empire and from the United States, because they or their forbears emigrated from one of the former. After this war, economic and social conditions will sponsor another wave of emigration; and the Travel Association, in conjunction with the tourist agencies, will be able to do useful work which will not bear fruit until some years later. Continuous advertising by the Travel Association, allied with the canvassing and propaganda of the tourist agents to complete the link of effort for this country, may keep before those arriving overseas for the first time the desire to visit the "old country" without the aid of any other special effort to this end. Some international agreement seems to be needed to avoid the type of race in tourist propaganda which was run before the war, particularly by the Axis nations. Government subsidies can do much good if used rightly, but can be harmful weapons when abused.

Publications Received

La Práctica Industrial Británica. (Spanish Handbook on British Industrial Practice): **Productos Británicos ; Guía para Compradores. (Buyers' Guide Supplement.)** Edited and published by the British Standards Institution, 28, Victoria Street, London, S.W.1. 8½ in. x 6½ in. 1,100 pp. xx pp. Supplement, 11½ in. x 9 in. 362 pp. Illustrated. Price, Great Britain, 7s. 6d.; in South America, \$5 m/n Argentine, or equivalent.—This imposing volume, and its no less attractive supplement, both in the Spanish language, will serve as a reminder and a proof, if such were needed, that British manufacturers and trading interests, and the institutions representing them, are fully alive, even amid the stress of wartime conditions, to the importance of preparing the ground for the recovery and improvement of overseas markets for British products in the post-war period. Particularly important in this respect is the existing and potential market in Latin America. The idea of the publication of the handbook originated with the technical committee formed in 1936 in the Argentine Republic by a group of engineers and traders, and one of the early actions of the Committee was to urge the British Standards Institution to take steps to familiarise South American engineers and business men with British technical and industrial practice. In the preparation of the handbook the institution has had the assistance of some 250 authors, all experts in their respective branches of science and industry and including representatives of universities, research associations, consulting engineers, export groups, and leading industrial firms. The whole has been translated into Spanish by the British Standards Committee in the Argentine Republic, and the technical terms used are those customary in that country.

Apart from the great propaganda and publicity value of the handbook, it is designed to serve admirably as a text book, and as such it may usefully contribute to the education of young engineers and technicians, especially as the institution has had the advantage of collaborating with the Instituto Argentino de Racionalización de Materiales. The subject matter in the handbook is divided into fourteen chapters, covering standardisation of mate-

rials, measuring and testing appliances, machinery, chemical, building, electrical, textile and other industries, as well as a section devoted specially to transport and communications. This section includes an abridged description of British railway practice, accompanied by full page reproductions of photographs of L.M.S.R. and L.N.E.R. locomotives. In all, there are 16 full-page half-tone reproductions of notable engineering and industrial achievements. The handbook is further illustrated with numerous diagrams. It is also illustrated by the 250 pages of display advertisement in the supplement. There are useful tables of conversion of British and metric measurements, and a full index.

Modern Railway Signalling on British Railways. By J. Aitken, District Inspector. 2nd edition, 172 pages, 7 in. x 4½ in. 21 photographs and 41 drawings and diagrams, with tables of block bell signals and specimen wrong line and other working forms. Price 3s. 6d. Distributed by S. B. Aitken 51 Crosshill Street, Lennoxton, Stirlingshire.—The author's many useful publications intended primarily for the various grades of the railway operating staffs are so well known and appreciated that this second edition of his comprehensive outline of signalling methods is sure of a favourable reception. Paper restriction has unfortunately compelled him to abandon his original plan of producing a larger work covering his subject in greater detail, but nevertheless he has been able to introduce certain welcome additions and improvements to the text as it appeared in the first edition, considerably enhancing the usefulness of the volume. Signalmen and others will find the book a distinct help in enabling them to understand their duties better and obtain some insight into the working of the apparatus under their charge. The descriptions of block working, on both double and single lines, and the precise method of operating the various forms of signalling instruments, describers, and so forth, are in the author's usual clear style. His long experience as a lecturer to improvement classes has enabled him to explain these matters in a way easily understood without special knowledge. When normal times return the author will have an opportunity of expanding certain sections of the work and introducing fresh illustrations. This could be done with advantage in some cases.

The volume, which is of convenient size, may be recommended to all railwaymen, especially those concerned with train operation.

The A.B.C. of Southern Locomotives. (a complete list of Southern Railway engines in service). Compiled by I. Allen and obtainable from him at 225-7, Laleham Road, Staines. 6 in. x 4 in. 21 pp. Price 1s.—This booklet consists of tables, the first of which gives locomotives of the Southern Railway in numerical order with their classes. Due to the system of numbering employed, these fall with few exceptions into three groups corresponding to the Western Section, the Eastern Section and the Central Section. A table of named engines under the several class headings comes next and finally there is a key table giving particulars of the different classes arranged in alphabetical order. Particulars listed are the wheel arrangement, the designer, the weight (locomotive only), the boiler pressure, cylinder dimensions, driving wheel diameter, tractive effort at 85 per cent. boiler pressure, and, finally, the nickname, if any. The information is of special interest to those who follow locomotive development in the South of England but we cannot understand why, in the last table, the Stroudley "Terrier," Class "AIX" should have been attributed to Mr. Marsh or have been given a building date of 1911-1932 as these locomotives have not been radically altered since they were built by Mr. Stroudley between 1872 and 1880.

Contour Projector.—A new catalogue sheet recently issued by A. C. Wickman Limited describes and illustrates the "Venwick" contour projector. This is a self-contained unit mounted on castors for throwing a magnified image of thread or gear tooth profiles on a ground glass screen of 12 in. diameter. A 12-volt 48-watt projection lamp is used but in conjunction with a transformer tapped in steps of 10 volts to take 200-250 volts a.c. The illumination is so good that no hood is required for viewing the screen even in a lighted room though the best results are obtained if the room lighting is a little subdued. Dallmeyer lenses give accurate definition and three, for x 10, x 25, and x 50, are supplied with the projector. Facilities are provided for holding the work to be examined and for measuring the magnified image.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Gascoyne's (Private) Railway

Essex House, Essex Street,
Strand, W.C.2. Dec. 28

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Where, when, and how was "Gascoyne's (Private) Railway" and who and when was Gascoyne? From the second report from the Select Committee on Railways (1839) page 406 one learns that "Gascoyne's (Private) Railway" was 1,895 yd. in length and that it carried passengers, in that during the year from February, 1838, to February, 1839, the aggregate number of miles travelled thereon by passengers was 2,300.

Although this railway is not traceable in the "Chronological Table of Railway Acts" (1801-1838), contained in Appendix No. 29 to the above mentioned report, "the Select Committee appointed to inquire into the state of communication by railways" treated it as a statutory company having power to make penal bye-laws, and asked it what bye-laws, if any, it had made, but Gascoyne's (Private) Railway did not favour the said committee with any reply. (First Report of Select Committee, 1839, p. 76).

Yours faithfully,
KENNETH BROWN

American-built Locomotives in England

12, St. John's Park,
London, S.E.3. Jan. 6

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Your editorial paragraph in the January 1 issue on U.S. locomotives in Great Britain reminds me that the 2-6-0 American engines supplied to the Great Northern Railway at the beginning of the century played a part (although a small one) in the short-lived London and Yorkshire competition of 1910. On July 11 of that year the Great Northern commenced to run its 2.15 p.m. from Kings Cross to Bradford, due at 5.56 p.m. as a reply to the Midland's 1.50 p.m. from St. Pancras to Bradford (*via* Thornhill) of July 1, and the rear portion of the Kings Cross train, for Leeds, was detached at Wakefield and worked forward on a "local," at 5.36 p.m., which was for some time entrusted to one of the American 2-6-0s. The Leeds arrival at 5.57 p.m., actually tied with the previous best time from Kings Cross, by the 1.30 p.m., and when later altered to 5.55 p.m. gave the fastest service of the day. The corresponding up train from Bradford at 6 p.m. worked into and out of Leeds.

Yours faithfully,
R. E. CHARLEWOOD

The Scrap Heap

The Beveridge report signals the doom of Harley Street, according to Mr. T. B. Layton, D.S.O., senior surgeon of Guy's Hospital, who said at a lecture at Guy's: "The system has had its day under which we spend a third of our lives working for nothing, recouping ourselves during the remaining two-thirds out of the pockets of the wealthy through the agency of the general practitioner."

THE GUARD WAS ILL

The sudden indisposition of the guard in charge of the 8.2 a.m. train from Gidea Park for Liverpool Street recently caused hundreds of City workers to arrive late at their offices. No substitute could be found and the train was cancelled.

NATIONALISATION

Mr. J. B. Sandbach, Marlborough Street magistrate, recently refused to accept the evidence of a clerk in the Investigations Department of the G.P.O. because it had been obtained improperly by "cross-examination" at an interview. An 18-year-old messenger was accused of trying to get £5 by means of a forged receipt on a telegraph money order and of delaying some telegrams given to him to deliver. Mr. Sandbach said: "The boy is little more than a child. He was probably terrified out of his wits. These interviews ought to be done in the presence of somebody with experience and some sense of fairplay. The boy is undefended, and I shall not admit evidence improperly stated." He dismissed the first summons and bound the youth over on the second, telling him it was wicked to delay telegrams.

Dulcie Haines, a 30-year-old clerk in the L.M.S.R. Prisoner-of-War Department, is so keen on the welfare of the 500 L.M.S.R. employees who are prisoners-of-war that after packing parcels all day, often she will take home index cards, stock records, and prisoners' letters to continue her work there.

THE RAILWAY GAZETTE

Sometimes she receives an unusual request from a prisoner, in which case she is to be seen industriously searching the shops for, perhaps, a green shirt or a pair of bathing trunks, or even embroidery silks. Over 500 parcels of clothing and other comforts already have passed through her hands since she despatched her first parcel on September 2 last and, if she has a regret, it is that international regulations forbid more than one parcel a quarter for each prisoner.

* * *

"THE RAILWAY TIMES—II"

"The Guardian involved his (William Odhams) being at work from nine o'clock on Tuesday morning until two or three on Wednesday. Then, with a few hours' sleep, he would start again at nine the same morning. In addition to Tuesday's long spell, on Fridays *The Railway Times* kept him until midnight."

William Odhams died in 1899 at the age of 85, but in 1892 he had sold the business to John Lynch Odhams and W. J. B. Odhams, two of his sons, although he never retired fully. W. J. B. Odhams joined the firm at the age of 14 and soon was reading the copy for *The Railway Times* as a proof reader.

The story of *The Railway Times* is worth sketching. Somewhere in the seventies, William Biggar having died and his son having let the paper down, it was taken over by William Odhams* for a while: indeed, during some twenty years he was sometimes sole proprietor, sometimes partner in its ownership, and sometimes without any other than the printing interest of it.

"While I was still a boy the editing of the paper was passed over to me for a while, though I had to combine with it a good amount of work in the printing office. The only thing that I remember of my labours is the gift of £5 from someone interested in that venture for a little article about the Beira Railway—written by me from goodness only now knows what humdrum source.

"About the time of my going into the printing office, another lad, Herbert Allen, was office boy in *The Railway Times*, where he remained for some years, and was soon entrusted with responsible work by the lazy son who had succeeded William Biggar in its proprietorship.

"Not very long after this son assumed possession, William Odhams had to take over the paper through neglect and a big overdue printing debt, and a year or two later, Allen—who for a while had found work elsewhere—suggested coming back to *The Railway Times* as part or whole proprietor—I am not sure which. Nor is there evidence of the purchase price, but it was certainly not large."

(To be continued)

The quoted extracts are from the volume "The Business and I" by the late J. B. Odhams.

* * *

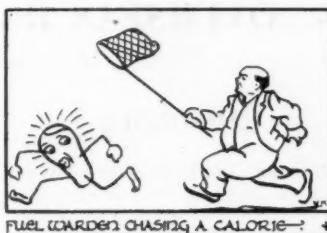
M.P. CALLS B.B.C. AND L.P.T.B. "FASCIST"

Sir Herbert Williams (Cons. M.P. for South Croydon) said in London today that for many years before war Britain was moving towards economic Fascism. London Passenger Transport Board almost perfect example of Fascist system. B.B.C. was entirely Fascist. He said: "I don't see much difference between alleged reactionary Tories of 50 years ago and modern long-haired planners."—From *The Evening News*, January 6.

"Can you imagine anything in WORSE taste than to queue for a bus and hail a cab at the same time?"

Reproduced by permission of the Proprietors of "Punch")

* The imprint of Thomas Biggar last appeared on the issue of October 9, 1880. From October 16, 1890, it was "Printed and published by John Lynch Odhams"



Wishing you
all the Best
and Good
Hunting in 1943.

C. E. Fairburn

IF

With Apologies to Rudyard Kipling
If you can keep your safety valves from blowing,
And only make the faintest trace of smoke,
If your electric power bill makes good showing,
And ditto too for oil and gas and coke.
If you can hear a leak of air and trace it,
And keep an eye on your pneumatic chucks,
And if a steam valve's blowing through, reface it,
And save a lot of petrol on your trucks.
If you can get ahead with steampipe lagging,
And see the traps are working as they should,
And keep the interest in the job from flagging,
And see its urgency is understood,
If you can stop steam hammer valves from leaking
And thus reduce the coal that's being burned,
And, if required, do some straightforward speaking,
And yet remain good friends with all concerned.
If you ensure shops are not overheated,
And yet full output can be still maintained.
If criticism leaves you undefeated,
And you can prove a saving has been gained,
If you can get the millwrights really active
To do the various jobs you have in store,
And urge them in a manner so attractive,
That when they've done the jobs they ask for more.
If you can think of further ways of saving,
And still the foremen greet you with a smile.
If, when you're feeling down and tired of slaving,
You still remember that the job's worth while.
If you can truly show your Superintendent
A really good report of savings won.
Well, then you are a Fuel Warden resplendent,
And do your bit to beat the bloody Hun.

D. W. S.

(The above greetings card and verse has been sent by Mr. C. E. Fairburn, Acting Chief Mechanical Engineer, L.M.S.R., to the Fuel Efficiency Officers in the company's works)

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

RHODESIA

Passenger-Train Accommodation

Due to the heavier passenger traffic now being carried and to the need for intending passengers to reserve train accommodation well in advance for journeys, which practically always involve sleeping on the train and so limit the number of passengers in a coach, it has been found that many people are reserving accommodation before they know definitely whether they will be able to travel on the date named. This practice has developed to a marked degree recently, and the General Manager of the Rhodesia Railways has issued an appeal to intending passengers to notify the company at least 48 hours before the departure of the train for which they have booked should they be unable to travel. In many instances passengers have omitted to cancel their reservations and trains have departed with numerous unoccupied seats. Recently, on an average, 25 per cent. of passengers booked were estimated to have failed to take up their accommodation; and on two particular trains there were 62 and 77 passengers, respectively, who were booked, but who failed to join the trains or cancel their reservations. The General Manager pointed out that the resources of the railways were taxed to the utmost to convey the passengers wishing to travel; and it was of great importance that the trains should not run with empty seats. It has been announced subsequently by both the Rhodesia Railways and the South African Railways that refunds will not be allowed on passenger tickets not used on the date for which the holders had reserved their train accommodation, unless the reservations shall have been cancelled at least 24 hours before the departure of the train; nor will the ticket be made available for use on a future date.

First Twin Dining Car

The Rhodesia Railways placed in service recently their first twin dining car, which was built in the Bulawayo Mechanical Workshops, and is the first dining car to be constructed in Rhodesia. Due to the heavy passenger traffic, particularly from Northern Rhodesia and the Belgian Congo, the ordinary 24-seat dining cars had been found inadequate, as they involved too many sittings for meals, and it was decided to rebuild two obsolete dining saloons as a twin dining-car set. One car has been converted into a saloon seating 42 passengers; the other provides kitchen and staff accommodation. The two vehicles are coupled together permanently and connected with a concertina-type vestibule. The seats in the dining saloon are arranged with tables for four on one side and two on the other, and there is a sideboard half way up the car suitably recessed so that one steward can pass another standing at the sideboard. At one end there is a wine bar and servery with a refrigerator, and at the end next the kitchen car there are two ice-chests with shelves above. The tables are covered with green rexine and the armchairs are upholstered to match; the sides of the body below the waist rail are lined with dark-green rexine, with a light-green rexine above the windows be-

tween panels of ash. The timber work is of calambera, a timber obtained from Portuguese East Africa. Three electric fans are provided between the centre lights in the clerestory roof, and there are bracket lights over each table. The other vehicle contains a pantry and serving room, a kitchen with two coal stoves, and hot-water boiler and supply tank, a coupé to accommodate the chef, two compartments each to accommodate two stewards, and a lavatory-bathroom for the European staff. At the far end of this coach there are a compartment and a lavatory-bathroom for six native kitchen and pantry assistants. The new unit was designed, under the supervision of the Chief Mechanical Engineer, Major M. P. Sells, to suit the requirements of the Catering Superintendent; it is running regularly on the Northern Express from Bulawayo to Ndola and Nkana on Wednesdays, returning on the Saturday train from the north reaching Bulawayo on Monday morning.

CANADA

Express Companies Results

Operations of the express companies in the Dominion during 1941 were unfavourable in comparison with 1940, gross earnings of all companies dropping from \$26,067,000 in 1940 to \$22,933,227 in 1941. Net operating revenues of these concerns, which include two express companies, and two express departments of railways, declined from \$2,321,674 in 1940 to \$617,818 in 1941. The express department of the Canadian National Railways attributed its loss of earnings to a large extent to the decline in gold shipments, which were exceptionally heavy in 1940.

Montreal Tramways

The Montreal Tramways Company experienced a heavy increase in traffic during the first half of last year, as compared with the same period in 1941. The numbers of revenue passengers carried during the first half, and during the second quarter, were 20.87 and 24.02 per cent. greater than the numbers carried in the respective periods of 1941. The total mileage covered by the company's trams, buses, and trolleybuses during the three months ended June 30, 1942, was 10,962,932. During the first six months of 1942 the company's vehicles travelled 21,214,470 miles, an increase of 2,634,003 over the mileage for the first half of 1941.

UNITED STATES

Restricting Pleasure Travel

The Office of Defense Transportation has ruled that no special trains shall be run this winter in connection with football matches and other sporting fixtures in the United States. Recognising the benefits derived from inter-college football and similar sporting events, and well aware of the desirability for their continuance, the O.D.T. lays it down that there is no objection to local attendance at such games, provided that the traffic can be handled by local transportation systems, and especially those using rails and not rubber tyres. In this connection the O.D.T. is asking for the co-operation of colleges in arranging for their fixtures at centres of population rather than on college grounds, for the latter encourage the sports travel over longer

distances which the O.D.T. is endeavouring to limit. Passenger travel in most parts of the U.S.A. has increased from 33 to 100 per cent., and passenger-train and bus equipment must be reserved primarily for troops, for servicemen on leave, for relatives and friends travelling to and from camps, and for those moving about the country on essential war business. Apart from the withdrawal of special sports trains, steps will be taken, if necessary, to restrict pleasure travel to and from scenes of sporting events.

Oil Transport Developments

Records for the carriage of oil by rail are still being broken steadily. For the week ending September 12, a new "high" was reached with an average daily movement of 838,440 barrels from the interior to the east coast. In achieving this record, the 33 oil companies concerned loaded 27,948 bogie tank-wagons with a total of 5,869,080 barrels of petroleum and petroleum products during the week. As a result of an Office of Defense Transportation order restricting the use of tank wagons in short-haul traffic, some 8,400 wagons have been released to assist in moving the east-bound long-distance traffic. Bigger measures, however, are in view. On the recommendation of the Petroleum Co-ordination for War, the Defense Plant Corporation has agreed to finance the construction of two 8-in. pipe-lines, one over the 175 miles from Greensboro, North Carolina, to Richmond, Virginia, extending the existing Plantation Pipe-Line from Baton Rouge, Louisiana; and the other over the 82 miles line from Tiffin, Ohio, to a point near Akron. In addition, President Roosevelt has asked Congress for authority to use existing river and harbour appropriations to the extent of \$6,485,000 in order to enlarge and deepen the existing waterway from Apalachee Bay, Florida to Corpus Christi, Texas, so that large ocean-going vessels may cut through from the Gulf of Orleans to the Atlantic across the root of the peninsula formed by Florida. These three schemes should ease greatly the oil position.

SWEDEN

Railway Results

The Swedish railways at present are handling very heavy traffic, of which fuel constitutes a large proportion. In September last, the total earnings of the State Railways were Kr. 43,500,000, compared with Kr. 38,300,000 for September, 1941. Expenditure (including Kr. 2,500,000 allocated to the renewal fund, against Kr. 2,300,000 in 1941) was Kr. 31,800,000 (against Kr. 28,200,000). For the period January-September of last year, total earnings amounted to Kr. 369,600,000 (compared with Kr. 315,000,000 for the same period of 1941), and total expenditure to Kr. 262,300,000 (Kr. 221,800,000). After deduction of interest on borrowed capital, there was a net profit for the nine months of Kr. 77,500,000, compared with Kr. 64,200,000 for the corresponding period of 1941.

Figures for the private railways are available only up to the end of August last. Earnings for that month were Kr. 15,200,000 (Kr. 13,100,000) and expenditure was Kr. 10,900,000 (Kr. 8,800,000). For the period January-August, earnings amounted to Kr. 104,400,000 (Kr. 90,400,000) and expenditure on traffic to Kr. 78,300,000 (Kr. 65,700,000). The net profit for the eight months was Kr. 11,200,000, compared with Kr. 11,300,000 for the same period of 1941.

New Train Description Apparatus

An improved type of mechanism working on the constant total code principle provides very flexible facilities

THE importance of transmitting accurate and comprehensive information concerning the class, destination, and other distinguishing characteristics of trains from one signal box to another has assumed an ever-increasing importance with the extension of power and automatic signalling, with in many cases

some time active in this field and installed a number of train describers on various railways, has introduced a new form of its equipment called the Polaridex system, and we are indebted to that company for the accompanying typical illustrations.

As a "wrong side" failure, that is,



Transmitter instrument, showing set up keys below dial, code transmitting, cancelling, and re-setting keys

the adoption of electric traction and consequent increase in the speed and frequency of the service. Also, it is important to indicate to the public on the platforms what train is approaching, with any information concerning its running, such as the "non-stop" stations, likely to assist passengers. Many different systems of train describers are in use; electro-mechanical, printing, tape recording, and relay mechanisms are all in service and working successfully.

Standard Telephones & Cables Limited, of New Southgate, which has been for

the transmission or reception of a description at variance with the action taken by the transmitting signalman, can cause considerable annoyance and lead to serious disorganisation in the traffic working, particular attention has been given to ensuring that the apparatus either works correctly or not at all, and affords a safeguard not only against ordinary mechanism defects but also against extraneous influences, such as line surges, or inductive interference. The constant total code principle is used, and a special check made to ensure the specified total

number of impulses being duly counted correctly before an indication can appear on the receiving apparatus.

A method of indicating the information to be conveyed is to employ a code designating the block-bell code, as ordinarily used between signal boxes, such as 4, 3-1, 2-3, in combination with a letter representing the destination of the train and another denoting some feature such as stopping, through, and so on, as follows:—

Block Code
1.2.3.4.5.4.3.2.1.P.X.

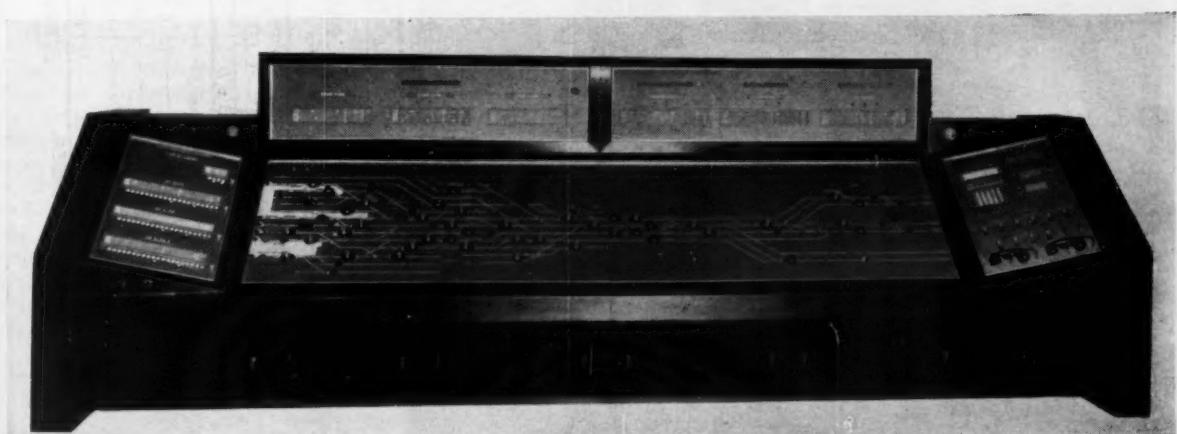
Destination
R.M.K.V.H.D.A.

Stopping Through
S.T.

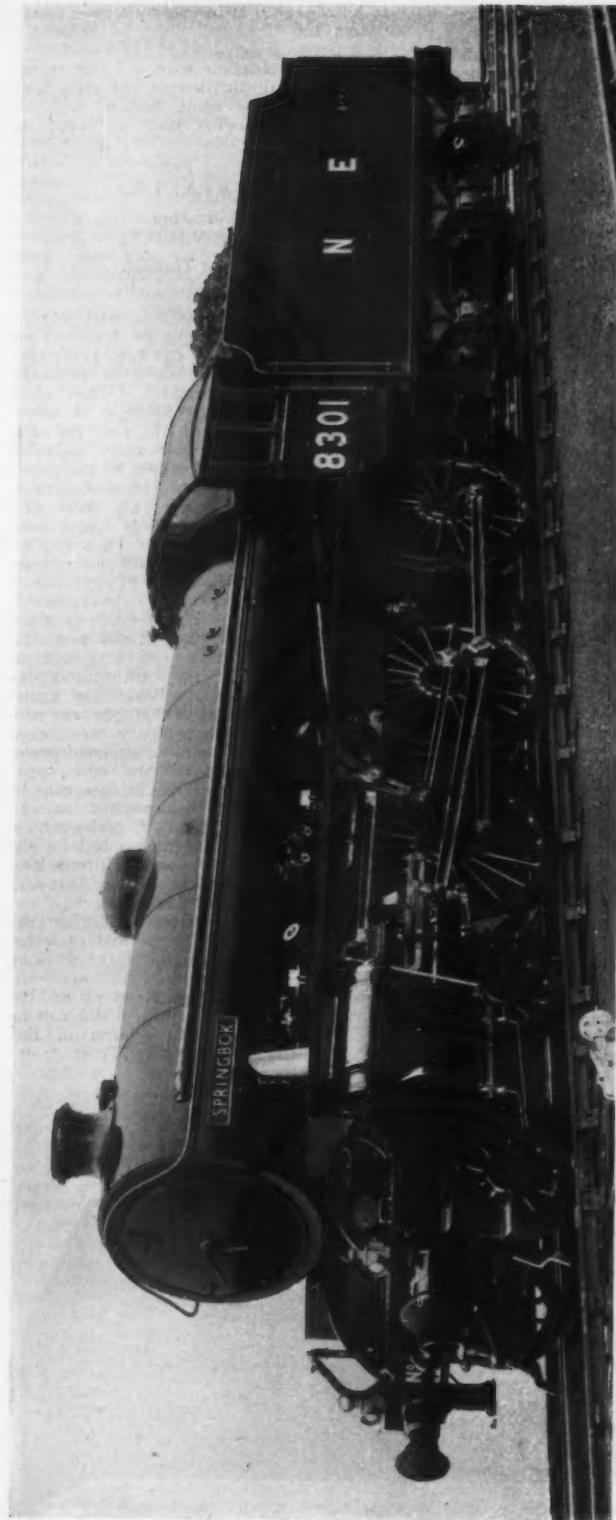
An express passenger train stopping at destination "D" might be described as 4 D.S. in which case the 4th, 17th, and 19th impulses are reversed in polarity; all others are "normal." Thus each complete description consists of a series of current impulses, of which all are of a "normal" polarity save those included in the description, which are of the opposite polarity. As the number of characters to be displayed may vary from one description to another it is found convenient to have a separate push key to each available character and to arrange that any combination of keys operated at the transmitting point—or interpolating point, should there be one—will produce a corresponding display at the receiving point. These keys can be seen at the bottom of the transmitter in the first illustration. Separate transmitters and receivers of this form are conveniently used with ordinary mechanical lever frames and the older types of power frames, but with panel and desk apparatus the describer mechanism can be directly and neatly incorporated, as seen in the second illustration, which shows the Polaridex equipment applied to the "sequence switch" panel interlocking apparatus, also supplied by Standard Telephones & Cables Limited.

The Polaridex system includes the special features now recognised as indispensable to flexible and efficient working under the varying conditions of main-line service. Storage is provided up to the maximum number of trains which can be accommodated on the section of line

(Continued on page 77)



Sequence switch interlocking panel apparatus, with train description receivers on centre portion and transmitters incorporated in both ends



General view of L.N.E.R. new mixed-traffic locomotive—*Mr. Edward Thompson, Chief Mechanical Engineer*

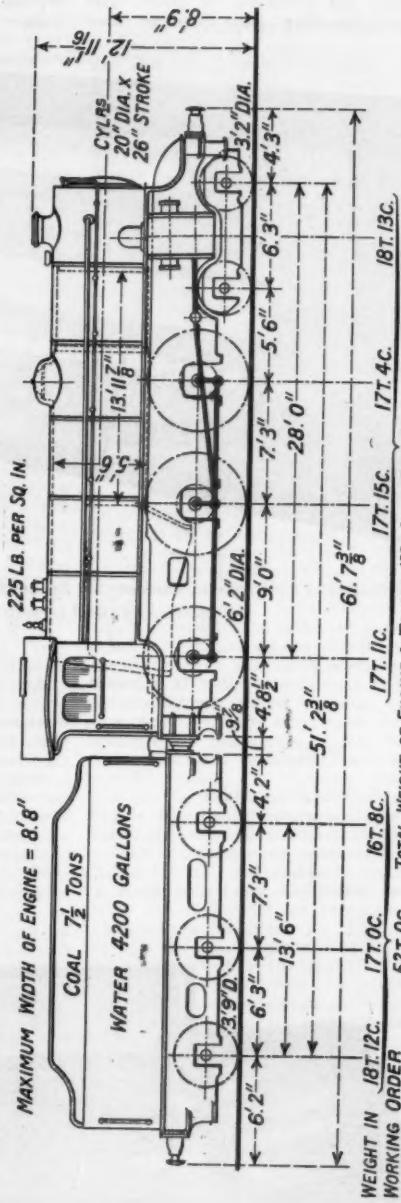


Diagram giving principal dimensions and axle loads

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New 4-6-0 Mixed Traffic Tender Engines for the L.N.E.R.

A design, embodying the best features of recent types and including fabricated parts, achieves considerable manufacturing economies

FOR dealing with heavy passenger and fast freight traffic, more especially under wartime conditions, the L.N.E.R. is putting into service some new 4-6-0 mixed-traffic locomotives to the designs of Mr. Edward Thompson, Chief Mechanical Engineer to the company. These locomotives are to be built at Darlington and are to be named after antelope varieties. The first has been completed and is the subject of the accompanying illustration. The name of *Springbok* has been chosen in commemoration of the recent visit of General Smuts to this country.

Range of Work

The engine is intended to work as far as possible, and with a minimum of restrictions, over the whole railway system operated by the company. Nevertheless it has a tractive effort greater than that of any engines hitherto employed for this class of work on this system, excepting only the "Pacific" and "Green Arrow" classes, which, however, due to their weight and wheel arrangement, are not so extensively available. The new engine is not a striking departure from existing designs but follows precedents already established and continues the well-known locomotive traditions of the company. By incorporating the best features of existing designs with such minor detail modifications as were required, the expense of providing new patterns, jigs, and tools has been almost entirely avoided. For instance, the cylinders have been cast from existing patterns, though the steam

passages have been altered to give the most direct flow of steam possible and the travel of the piston valves, which are of 10 in. dia. and have a steam lap of 1½ in., has been lengthened to 6½ in. by modifying the quadrant link. Cut-off in full gear is at 75 per cent.

Use of Fabricated Parts

One notable departure from normal practice has been the substitution as far as possible of fabricated parts for steel castings. These have been made in the company's shops; only wheel centres, buffer sockets, and horns have to be cast in the usual way. Journal dimensions are 8½ in. dia. × 9 in. long for the coupled axles and the corresponding figures for the bogie axles are 6½ in. × 9 in., for the crank pins 5½ in. × 6 in., for the leading and trailing coupling pins 4 in. by 4½ in., and for driving coupling pins 6 in. × 4½ in.

The boiler is of the same design as that fitted to the 4-6-0 Class "B17" locomotive but with the pressure increased from 200 to 225 lb. per sq. in. In its new application this boiler supplies two 20 in. dia. cylinders instead of three 17½ in. cylinders as in the "B17" engine, and consequently it should prove of ample capacity.

It is provided with 143 tubes of 2 in. outside dia. and 24 superheater flue tubes of 5½ in. outside dia. containing 24 superheater elements of 1.244 in. inside dia.

The firebox is 9 ft. 7½ in. long by 4 ft. 0½ in. wide and is constructed of ½ in. copper plate. The barrel, which has a maximum diameter of 5 ft. 6 in., is

made of ½ in. plate with wrapper and back plate of ½ in. plate and a 1 in. tube-plate. Fittings include two 3 in. dia. Ross pop safety valves.

Leading particulars of the locomotives are given in the diagram on the opposite page and in the following table:—

Cylinders (2), dia. ...	20 in.
Piston stroke ...	26 in.
Heating surface, tubes ...	1,048 sq. ft.
" flues ...	460 "
" firebox ...	168 "
" combined evaporative ...	1,676 "
" superheater ...	344 "
" total ...	2,020 "
Grate area ...	27.5 sq. ft.
Working pressure, per sq. in.	225 lb.
Tractive effort (at 85 per cent. b.p.)	26,878 lb.
Adhesion weight ...	117,600 lb.
Ratio, adhesion weight to tractive effort ...	4.375

The engine is equipped with steam braking and a vacuum ejector. A standard L.N.E.R. tender is provided.

Some operating experience has been gained already with the new engine which is understood to have satisfied all expectations. Because there are no economies in manufacture that could have a detrimental effect on performance or endurance the design is one which may become standard and be perpetuated after the war.

On examining one of the locomotives we were favourably impressed by the accessibility of the working parts and also by the cab arrangements. A noticeable feature is the unusually-long regulator handle which stands well away from the back plate and provides a very sensitive means of control. Similar sensitivity is obtainable in cut-off adjustment by the provision of a reversing gear of the screw type. The convenient drop-gate feature of the "B17" engines has been retained. Apart from the unusual height of the running board, which completely clears the coupled wheels, and makes for ease both of cleaning and of attending to the motion, the engine bears a close resemblance externally to earlier designs and is a handsome addition to a large family of locomotives which have been long admired for their neat and sensible appearance.

An interesting photograph by Mr. B. Hansford of Hampton, of the track layout at Richmond before 1870, as seen from Church End Bridge looking towards London. The locomotive appears to be one of the L.S.W.R. engines known as "Beattie's Well-tanks." The crossover from the main line is still in operation as also are the sidings running into part of the station used by the L.M.S.R. and District trains. The slotted signal posts allowing the arms to disappear for the "clear" position will be noted



Photo by courtesy]

[Southern Railway Magazine

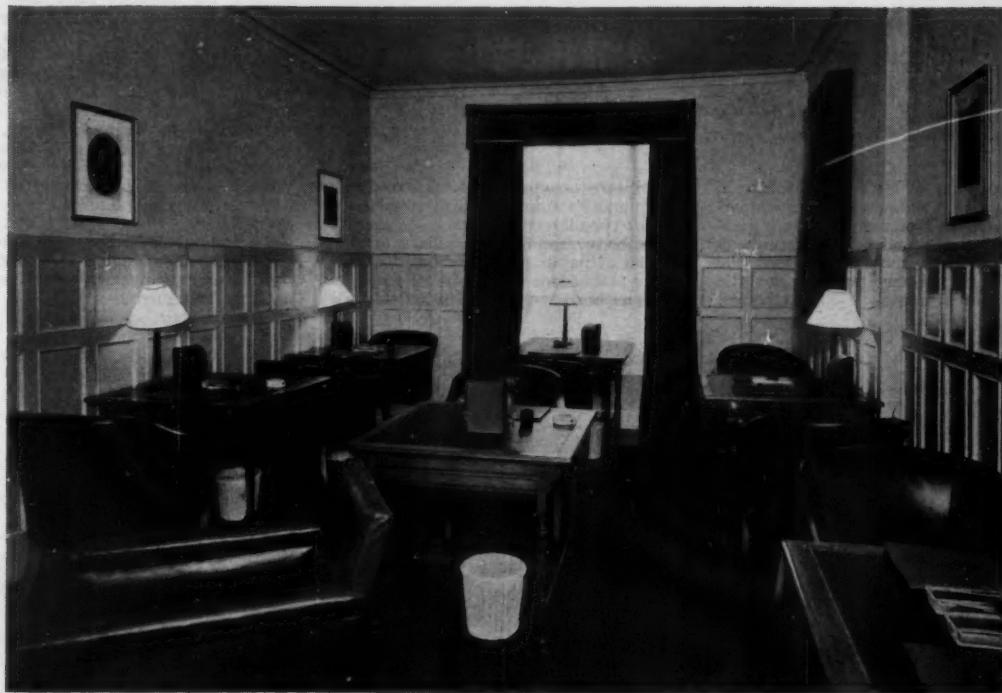


The cocktail bar at the Transportation Club, Wilton Terrace, S.W.1



A view of the lounge. Furnishings throughout were supplied from railway hotels

RAILWAY SPONSORED CLUB OPENED IN LONDON FOR UNITED STATES



A writing-room (shown above) and a card-room are part of the amenities provided



Above is shown the cafe-bar, which is a popular feature of the club

New Workmen's Carriages for use on the Great Northern Railway (Ireland)

Twenty of these vehicles are being built at the company's works at Dundalk

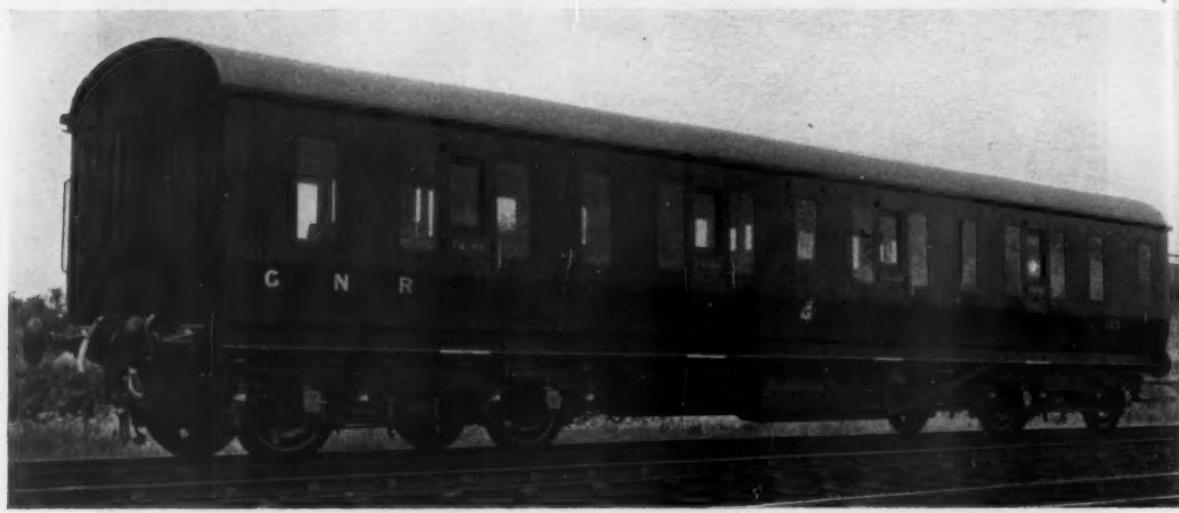
BY the courtesy of Mr. H. R. McIntosh, Locomotive, Carriage & Wagon Superintendent, Great Northern Railway (Ireland), we illustrate and briefly describe a new type of coach recently built at the Dundalk Works of the company for the conveyance of workmen. The vehicles,

to facilitate conversion of the coaches to the company's standard third class centre-corridor type later.

The body framing and pillars are constructed of baca, a hard wood of durable quality; the door pillars are of teak, and the doors are panelled on the outside with

suitable for blackout conditions. On the first coach to be built large steel window frames were fitted as shown on the accompanying drawing, to facilitate the fitting of the standard large lights at a later date, but with a view to reducing the amount of steel required, it was decided afterwards to fit the smaller lights, as shown in the photographic view of the composite coach. Ten of the vehicles will have Vickers' electric-light fittings, and the other ten electric-lighting equipment by J. Stone & Co. Ltd.

Seating accommodation for 108 passengers is provided, and a view showing the contour and arrangement of the seats forms part of the drawing reproduced herewith.

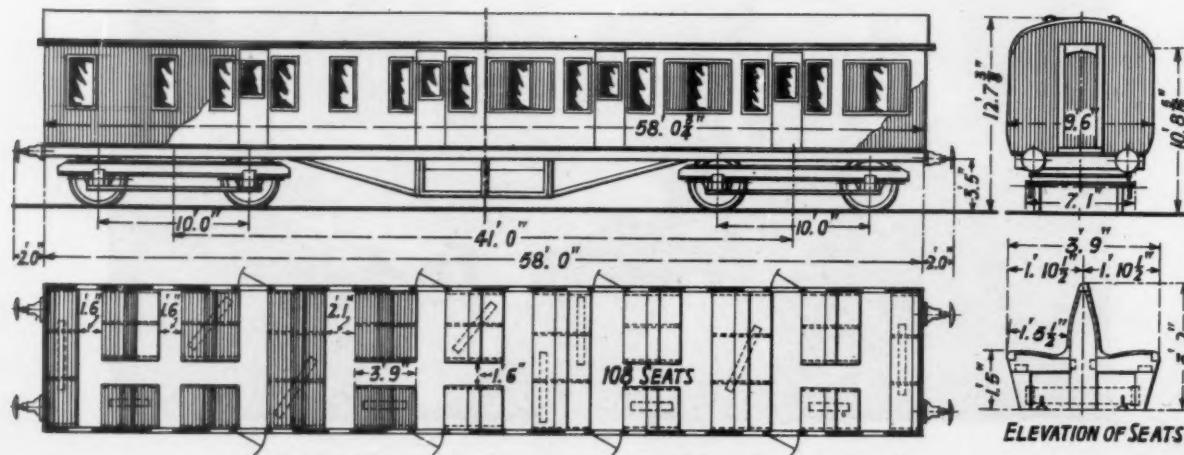


General view of new type of bogie coach for workmen's trains. These vehicles have been built for the Great Northern Railway (Ireland) at Dundalk Works

20 in number, conform to the standard size of the company's bogie stock, namely, 58 ft. long by 9 ft. 6 in. wide: gangways are not fitted and the seats are of the lath type without upholstery. The interior finish is as plain as possible with a view to the maximum saving of materials, and the construction generally is arranged so as

16 in. Masonite Tempered Preswood. Imported spruce with stained and varnished finish is used for the remainder of the outside panelling; the seats are of native larch, varnished only. The insides of the coaches are finished similarly; the outside doors are provided with Kayes' patent safety-catch locks, and the roof fittings are

The total wheelbase is 51 ft., and each bogie has a wheelbase of 10 ft. The weight of the coach is 26 tons. Steam-heating apparatus is fitted, but without controls; passenger communication is provided. Eight coaches are at present in service, and it is expected that a further six will be completed before the end of this year.



Drawings showing the principal dimensions, interior and exterior, of the new workmen's coaches and also the seating arrangements

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RAILWAY NEWS SECTION

PERSONAL

L.N.E.R. APPOINTMENTS

The L.N.E.R. announces the following appointments:—

Mr. A. J. White, Commercial Advertising Agent, to be Chief of Police, Southern Area, in succession to Mr. R. R. Pettit, who will retire shortly from the company's service.

Mr. C. P. Hopkins, Assistant Rolling Stock Controller, York, to be Rates & Statistics Assistant to the Chief General Manager, in succession to Mr. E. A. W. Dickson, who recently was appointed Secretary of the company.

Mr. F. S. Towle has relinquished his appointment as Director for Iron & Steel Scrap Supplies. He will be succeeded by Mr. H. W. Secker, hitherto Area Representative in Sheffield. Mr. J. McCallum succeeds Mr. A. J. Wainford as Area Representative for the North-East Coast.

Major-General G. S. Sulumper has been gazetted in the honorary rank of Major-General on his retirement, as from January 1, from the Territorial Army.

In a list of L.M.S.R. appointments published in our last week's issue, the name of the Assistant Divisional Controller (Freight Services), Derby, who is to be District Controller, Peterborough, was given as Mr. W. C. Bullenger, instead of Mr. W. C. Mullenger.

Mr. John Marchbank, who, as recorded in our October 23, 1942, issue, retired from the position of General Secretary to the National Union of Railways at the end of last year, is attending as a member of the T.U.C. delegation, the first meeting of the newly-formed Anglo-American Trade Union Committee in New York this month.

We regret to record the death on January 1, at the age of 65, of Captain Edwin W. Harvey, M.B.E., R.N.R. (retired), who, until his retirement in 1940, was Dockmaster & Outdoor Assistant, Southampton Docks, Southern Railway. He commenced his seafaring career at the age of 14 with the Carmichael wool clippers trading between the Thames and Australia. After serving in various tramp steamers, he was appointed a Fourth Officer with Dempster & Company; he obtained his extra master's certificate when he was appointed Chief Officer of the *Port Royal*, and, shortly afterwards, he received his first command. He served in command of the Imperial Direct Line steamers until April, 1904, when he became Dockmaster, Avonmouth. In 1912 he was appointed Dockmaster, Southampton, L.S.W.R.; and in 1924 he was given the position which he held until his retirement. Captain Harvey was a Younger Brother of Trinity House, and an Associate of the Institute of Naval Architects.

Mr. F. E. Harrison, O.B.E., M.Inst.C.E., Engineer, North-Eastern Area, L.N.E.R., who, as recorded in our January 1 issue, has been appointed Assistant Chief Engineer, is the eldest surviving son of the late Mr. C. A. Harrison, for many years Engineer of the Northern Division of the former North Eastern Railway, and later Consulting Engineer to that company. Mr. F. E. Harrison was born in 1882, and was educated at Aysgarth School, York-

Engineer, North-Eastern Area, on the retirement of Mr. J. Miller. Mr. Harrison has been President of the Permanent Way Institution since 1939.

DEATH OF MR. OTTO JABELMANN

We regret to record the sudden death at Victoria Station on January 6 of Mr. Otto Jabelmann, Vice-President for research and mechanical standards, of the Union Pacific Railroad of the United States of America, who was in Great Britain on a special railway mission for the American Government.

The funeral service was held at Golders Green Crematorium on Monday, January 11, and was conducted by the Rt. Rev. Bishop Magee of the Reformed Episcopalian Church. Among those present were:—

Mr. Glen Abbey (representing the American Ambassador); Mr. Averell Harriman, Miss Harriman, Colonel N. A. Ryan (Deputy Chief of Transportation, E.T.O.U.S.A.); Major Birmingham (E.T.O.U.S.A.) and the following members of the Harriman Mission: Mr. R. P. Meiklejohn (Secretary), Mr. R. McCaffery, Mr. W. G. Brown, Mr. Frederick Brechter, Mr. Arthur Notman, Mr. William Black, Mr. Samuel Berger, Mr. James McCullough, Mr. R. A. Riddles, C.B.E. (representing Ministry of Supply); Sir William Wood President, L.M.S.R. (representing the Railway Executive Committee); Sir W. A. Stanier, Chief Mechanical Engineer, L.M.S.R.; Mr. O. H. Corble (representing Mr. C. H. Newton, Chief General Manager, L.N.E.R.); Mr. John Elliot (representing Mr. E. J. Missenden, General Manager, Southern Railway); Mr. K. W. C. Grand (representing Sir James Milne, General Manager, G.W.R.); Mr. V. M. Barrington-Ward (Chairman, Operating Committee, Railway Executive Committee); Mr. Gilbert Matthews, Superintendent of the Line, G.W.R.

Mr. H. J. Green, Chief Engineer (Civil), London Passenger Transport Board, received the O.B.E. (Civil Division) in the New Year Honours List.

Mr. Martin Campfield, Outside Assistant to Mr. J. C. Ward, General Manager of Milford Docks Company, has been awarded the B.E.M. (Civil Division).

Mr. Ernest Edward Northcott, Goods Agent, Southampton, Southern Railway, was awarded the British Empire Medal (Civil Division) in the New Year Honours List.

We regret to record the death at Shrewsbury, at the age of 78, of Sir Henry P. Maybury, G.B.E., K.C.M.G., C.B., M.Inst.C.E. In 1913 he was appointed Chief Engineer of the Road Board. In 1916 he was called on to organise the roads directorate in France, with the rank of Brigadier-General, and was responsible for the construction and upkeep of 4,000 miles of roads. When the Roads Board was absorbed into the Ministry of Transport in 1919, Sir Henry Maybury was made Director-General in charge of the Roads Department of the Ministry, and retired in 1928. He was appointed an original member of the London Passenger Transport Board in



Mr. F. E. Harrison, O.B.E.

Appointed Assistant Chief Engineer, L.N.E.R.

shire, and Winchester College. After serving a pupillage with the former North Eastern Railway at Newcastle-on-Tyne, he was employed with Sir John Jackson Limited on the extension of the Naval Dockyard at Devonport. In 1906 he again entered the service of the North Eastern Railway at Newcastle-on-Tyne, and three years later was appointed District Engineer of the Northumberland Area, becoming District Engineer, Newcastle-on-Tyne, in 1913. During the war of 1914-19 Mr. Harrison served in France on the staff of the Director-General of Transportation, with the rank of Major, R.E. On returning to the railway service, he assumed his former position, and, in 1930, when the Northumberland and Newcastle-on-Tyne Districts were amalgamated, Mr. Harrison was placed in charge of the combined area. In 1934 he became Assistant Engineer, North-Eastern Area, and in 1937 he was appointed En-

January 15, 1943

1933, and was re-appointed for a further three years in 1936, and for a further three years in 1939. He was Chairman of the London & Home Counties Traffic Advisory Committee 1924-33. He was President of the Institute of Transport, 1921-22, and became President of the Institution of Civil Engineers in 1933-34. He was created C.B. in 1917, and received the K.C.M.G. in 1919, and the G.B.E. in 1928.

Mr. W. H. Roberts, F.S.I., Assistant Estate Manager, L.M.S.R., who, as recorded in our December 4 issue, has been



Mr. W. H. Roberts

Appointed Estate Manager,
L.M.S.R.

appointed Estate Manager, entered L.N.W.R. service in April, 1898, commencing in the Accounts Section, of the Estate Department at Euston. In January, 1900, he was transferred to the Contracts & Agreements Section, at headquarters. After qualifying by examination as a Professional Associate Member of the Surveyors' Institution, he was appointed, in January, 1913, Surveyor dealing with land agency, town planning, and other specialised subjects under Mr. J. R. Ball, then Land & Estate Agent, L.N.W.R. On the reorganisation of the department consequent on amalgamation, in December, 1924, he was appointed General Assistant to the Land & Estate Agent, L.M.S.R. On the appointment of Mr. W. H. C. Clay as Chief Land & Estate Agent, Mr. Roberts was appointed Assistant to Land & Estate Agent, with effect from January 1, 1929, and two years later was made Assistant Land & Estate Agent, Euston. He has been a Fellow of the Chartered Surveyors' Institution since April, 1925, and during his railway service Mr. Roberts has served under no less than four successive chiefs of his department.

Mr. Thomas H. Sanders, M.I.Mech.E., M.I.Loco.E., Technical Director of Jonas Woodhead & Sons Ltd., whose death we recorded last week, was born in London in 1883, and was one of the first boys to take the L.C.C. Scholarship presented by the late King Edward VII (then Prince of Wales). At the age of 19 he commenced his career as an Inspector for Railway Materials under the late Mr. George Cawley, Consulting Engineer for the Imperial

Japanese Railways, a position which entailed extensive foreign travel. At the age of 25 he was awarded the prize of the year as Graduate of the Institution of Mechanical Engineers. During the war of 1914-19, he was engaged in the production of war material in Sheffield, first at Brown Bayleys' Steel Works Limited, and then with Owen & Dyson Limited, railway wheel and axle makers. In 1920 he was responsible for the layout, equipment, and management of a spring works for Brown Bayleys' Steel Works Limited, at Farnley, Leeds. In 1923 he joined Jonas Woodhead & Sons Ltd. as Technical Engineer, and



The late Mr. T. H. Sanders

Technical Director, Jonas Woodhead & Sons Ltd.,
1935-43

since that date had produced numerous valuable patents in connection with springs. In 1935 he was appointed Technical Director of Jonas Woodhead & Sons Ltd., Leeds, and at a later date also was elected a Director of the associated companies, Willford & Co. Ltd. and Ibbotson Bros. & Co. Ltd., both of Sheffield. Mr. Sanders was a Member of the Institution of Mechanical Engineers and of the Institution of Locomotive Engineers, and twice he was awarded medals for papers read before the latter institution. He was also a Member of the Iron & Steel Institute, and was past-President of the Railway Locomotivemen's Craft Guild (Leeds Centre); in 1931 he was presented with the Freedom of the Sheffield Spring Trade Technical Society. In 1920 he published his first book on the subject of springs, and subsequently he published further volumes on the same subject, the last of which was completed only a few days before his death. As a technical lecturer he was in great demand, and was always ready to share his knowledge with any society or individual who cared to consult him. As a lecturer, he did not confine himself merely to suspension subjects, but was also an authority on railway practice throughout the world. The funeral service took place on January 5 at St. Edmund's, Roundhay, and was attended by many representatives of the Yorkshire steel trade.

Mr. John Quirey has been reappointed a permanent member of the Railway Rates Tribunal for a further period expiring June 30 next.

Mr. S. B. Carter, O.B.E., Outdoor Superintendent for the Chief Commercial & Chief Operating Managers, L.M.S.R., who, as recorded in our January 8 issue, retired at the end of last year, was educated at Fettes College, Edinburgh, and joined the London & North Western Railway as a probationer in 1900. In 1910 he was appointed District Superintendent, North-Eastern District, with headquarters at Manchester, and in 1914 went to Liverpool to take charge of the Northern District. During the war of 1914-19 he had control of the entrainment and despatch of all troops landing at Liverpool, including the American Army, for all



Mr. S. B. Carter, O.B.E.

Outdoor Superintendent for the Chief Commercial & Chief Operating Managers, L.M.S.R., 1932-42

the railway companies then serving the port, to which Mr. Edwin A. Pratt devoted a chapter in his book, "British Railways and the Great War"; in 1920 Mr. Carter was created an Officer of the British Empire for his work during that period. On the amalgamation of the railways he became Assistant to the General Superintendent at Manchester, and in 1925 went to Derby as Outdoor Assistant to the Chief General Superintendent. In 1932 he was appointed to his present position, with headquarters in London. Mr. Carter is a Major in the Railway Staff Corps, and an Associate of the Institution of Railway Signal Engineers; and he was one of the original members of the Institute of Transport.

We regret to record the death on January 9 in Dublin, in his 67th year, of Dr. Wm. Lombard Murphy. He was a Director of the former Great Southern & Western Railway Company, and was elected one of the 15 original directors of the Great Southern Railways Company which was constituted in 1925 by the amalgamation of all the railways in the Irish Free State. When the number of directors was reduced by the Transport Act of 1933 to seven, Dr. Murphy was elected to the board as so re-constituted. In 1942 under an Emergency Powers Order (No. 152) the board was again reconstituted so as to consist of a Chairman appointed by the Government and of four directors representing the shareholders, and Dr. Murphy was once more elected a director. He was also a Director of the Dublin United Transport Co. Ltd.

TRANSPORT SERVICES AND THE WAR—173

Chartered Vehicle Fuel Costs

As the result of negotiations between the Road Haulage (Operations) Advisory Committee and the Ministry of War Transport, it has been decided to make an allowance to operators of vehicles chartered under the Road Haulage Scheme to meet the increases of 1d. a gallon for petrol and 1½d. for fuel oil which have been made since the scheme was begun.

East Coast Raids

Details have recently been issued of two typical air raids on the East Coast, which reveal something of the smart work still being undertaken by railway staffs to nullify the nuisance value of the tip-and-run coastal raids.

Early one morning in July, 1942, an enemy plane dropped a stick of bombs across the L.N.E.R. line from Braintree to Witham; one formed a crater 25 ft. wide and completely destroyed the line entering Witham Station for a distance of 50 yd. Although hindered by the severance of all telephone communications, the staff, by hard work and ingenuity, restored the 50 yd. of track the same morning, only 4 hr. 2 min. later.

On another morning in the same month, an enemy plane dropped bombs on the lineside just south of the L.N.E.R. station at Willoughby, Lincs. Clay, bricks, and concrete, young trees, portions of hedge and earth were thrown on the lines, blocking them both with 500 tons of debris nearly 2 ft. deep for a distance of 250 yd. The explosion awoke the Stationmaster, who instructed a porter to cycle to the ganger in charge of the line, who lived two miles away. One member of the gang called another, and, despite the distances involved, four men were at work by 3.15 a.m. removing the debris. By 5.46 a.m. the down line from Boston to Grimsby was clear and the mail train was delayed only 1½ hours. By 6.15 a.m., with the help of the permanent-way gang from Alford, the up line was also clear.

Fire Fighting on the L.N.E.R.

In addition to the large numbers of trailer pumps obtained for fighting fires at large stations and depots, the L.N.E.R. has now introduced some small pumping units specially to deal with fires among wagons

in congested marshalling yards. The units are extremely compact, mounted in a cube-shaped cradle only 25 in. in one dimension, and can be moved easily by hand from place to place. A 2½ h.p. air-cooled engine, operating a single-stage type pump, gives an output of 50 gal. a min., through two jets. The units are kept at locomotive sheds or other places where a locomotive is normally at hand, so that they can be taken on the locomotive quickly to the scene of a fire. The engine tender is used as a static water supply, and should normally give sufficient water either to extinguish the fire or to keep it in check until further assistance arrives.

Newcastle Suburban Travel

Recent decisions of the Northern Region Transport Commissioner have made incoming longer-distance buses available to suburban residents of Newcastle, but long-distance passengers continue to be protected on outgoing journeys. It was originally arranged that, from November 30, inward buses might take up passengers at recognised stopping places south of Henry Street, at fares equivalent to the tram fares plus one penny. From the same date, vehicles going into Newcastle through Ponteland were to be permitted to take up passengers at any recognised bus stopping place at the same single fares as those of the Newcastle Corporation service number 5. Existing restrictive conditions would continue to apply on journeys outward from Newcastle. From December 28 no outgoing passengers would be permitted to travel by the buses of the United Automobile Services Limited from the Haymarket to points short of Woolsington Road End, Gosforth.

The arrangements were held up, as the Newcastle Corporation made representations to the Ministry of War Transport against the scheme. The Minister upheld the decision of Sir John Maxwell, the Northern Region Transport Commissioner, to permit incoming buses to Newcastle to pick up passengers on the Great North Road, and from Ponteland to Newcastle at certain points. The Ponteland facilities

CONSIGNING OF TRAFFIC BY MERCHANDISE TRAIN "CARRIAGE PAID"

In exercise of the powers conferred upon him by Regulation 55 of the Defence (General) Regulations, 1939, and of all other powers enabling him in that behalf, the Minister of War Transport hereby gives the following Direction:—

1. On and after 1st January, 1943, no traffic to which this Direction applies shall be accepted by a Railway Company for conveyance by Merchandise train unless it is consigned "carriage paid" provided that:—

(a) cattle, sheep, pigs, fresh fruit and fresh vegetables (including potatoes and sugar beet) "carriage forward" may be accepted for conveyance up to and including the 31st March, 1943.

(b) seed potatoes consigned "carriage forward" may, up to and including the 30th April, 1943, be accepted by a Railway Company for conveyance from Scotland to destinations in England and Wales when the said conveyance is partly by railway and partly by sea, but not when the said conveyance is solely by railway.

(c) return empties consigned "carriage forward" and being one of the firms or persons named in the list all firms to which reference is made in paragraph 2 hereof may be accepted for conveyance up to and including the 31st January, 1943, or where such consignee has prior to that date applied to the Railway Company to agree a charge for the carriage of such returned empties under the provisions of Section 37 of the Road and Rail Traffic Act, 1933, then, during the Railway Company's decision on such application, up to and including the 31st March, 1943, unless in the meantime such application is refused when and in such case conveyance may be accepted only up to and including the date of the notification to the consignee of the refusal or the 31st January, 1943, whichever of those two dates shall be the later.

2. The list of firms referred to above is that which is set out on pages 63 to 171 (both inclusive)—list of firms whose Empties may be carried with Carrage Charged Forward—of the Special Instructions relating to Goods, Mineral and Live Stock Traffic, published by the Railway Clearing House, and dated April, 1941 (as amended by subsequent leaflets). [A copy of this list is available for inspection at any railway goods station.]

3. This Direction shall apply to all traffic for conveyance by merchandise train other than merchandise for conveyance to a trader with whom the Railway Company has agreed or shall hereafter have agreed a charge for the carriage of such merchandise under the provisions of Section 37 of the Road and Rail Traffic Act, 1933.

4. This Direction may be cited as "The Railways (Carriage Paid) Direction, 1942."

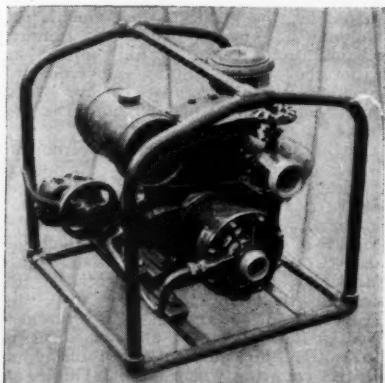
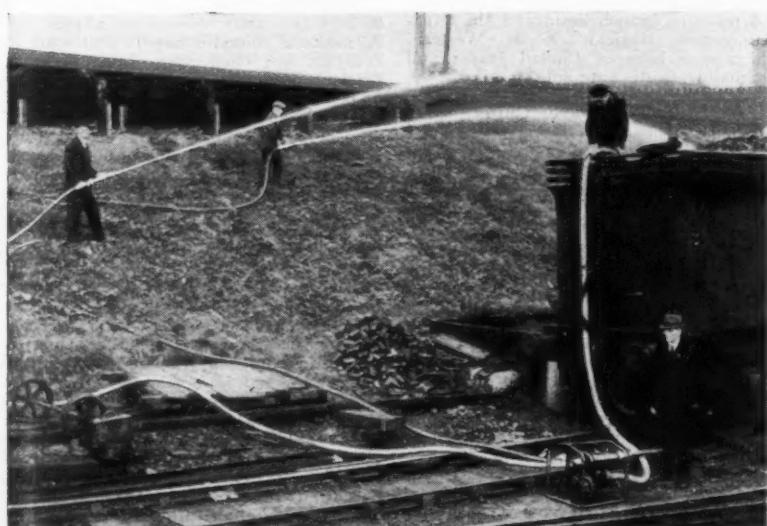
Signed by authority of the Minister of War Transport this seventeenth day of December, 1942.

17/1 P. PAULKNER, an Assistant Secretary

RAILWAY EXECUTIVE COMMITTEE

R.E.C. poster regarding the new limitations on "carriage forward" traffic

were made available on Monday, December 21. From Sunday, January 3, all public service vehicles incoming to Newcastle through Gosforth along the Great North Road are permitted to take up passengers at points south of Henry Street, Gosforth, at fares equivalent to the corresponding



Above: The Sigma portable pump

Left: One of these small pumping units at work in Kings Cross locomotive yard

tram fare, plus one penny. The previously-existing arrangements regarding taking up passengers at points north of Henry Street continue to apply. From January 3 the stopping places of buses on inward journeys between Brunton Lane, Gosforth, and the Haymarket are one tramway standard north of each tram stopping place.

From January 3 no passengers are taken up on vehicles of the United Automobile Services Limited outgoing from Newcastle at or between the Haymarket and Brunton Lane, Gosforth, for setting down between those places.

As a wartime measure only, the first setting down point for passengers on public service vehicles operating between the Haymarket, Newcastle, and Tynemouth or Whitley Bay is opposite the junction of Addycombe Terrace with the Coast Road. Beginning on Sunday, January 17, public service vehicles of the Tynemouth & District Transport Co. Ltd., operating between Gateshead and Whitley Bay will be permitted to pick up for setting down passengers at and between Church Bank Top, Wallsend, and the north end of the Tyne Bridge. Fares will be the same as those authorised to be charged by Newcastle Corporation Transport on No. 13 service and by the Tyneside Tramways & Tramroads Company.

Street Transport in Lemberg

According to the *Lwow* (Lemberg) correspondent of the *Krakauer Zeitung*, the motor-buses which formerly served the city, include 36 of American construction, were removed by the Soviet authorities for service in the streets of Moscow. Lemberg was, of course, on the Russian side of the line of demarcation agreed by Germany and the U.S.S.R. at the time of the occupation and dismemberment of Poland. When Germany invaded Russia, much equipment was removed by the Russians as they retired, and, at the time the German Authorities assumed control in Lemberg, they found the town of 200,000 inhabitants in urgent need of local transport. Some 45 miles of tramway track are said to have been restored rapidly, and 180 trams placed in service. During the daytime the tramway carries passenger only, but at night it is used to transport goods of all kinds, including coal, timber, peat, potatoes, and building materials.

Mexican Railways in War

In view of the heavy wartime traffics which the Mexican railways are required to handle, the Mexican Government has undertaken extensive works of railway rehabilitation, recently in conjunction with the United States Government. Reference to this was made in our issues of November 27 (page 533) and December 4 (page 538).

In addition, the Mexican Government is pursuing a policy of acquiring privately-owned railways (even when State operated), so as to bring all the main railway network under the complete control of the Government. An unofficial report of January 8 states that "the Mexican Government is negotiating to acquire the Mexican Vera Cruz to Oaxaca Railway and the British-owned Necaxa Railway." The first-named seems to be the Mexican Southern Railway, a British company which owns 321 miles of 3 ft. gauge line, including 228 miles between Puebla and Oaxaca, all leased to the Interocceanic Railway of Mexico (Acapulco to Vera Cruz) Limited and operated by the National Railways of Mexico. For some years past the Mexican Southern has been negotiating for compensation in respect of its line.

The Mexican lines of the Kansas City, Mexico & Orient Railway were acquired some time ago. The inclusion of the name of this company in the recent report may indicate that financial terms have now been agreed.

It seems that U.S.A. wartime participation may be contingent on the Mexican Government securing actual ownership of the railways it works, and that the U.S.A. will possibly assist in the financing of the necessary arrangements. Considerable changes in the railways of Mexico are foreshadowed, both in the physical and financial spheres, as a result of U.S.A. Federal co-operation. A technical mission of American railway experts is in Mexico at the request of the Mexican Government, but the only official indication of the extent of American participation is the statement that the United States has agreed to finance the improvement of important lines of the National Railways of Mexico, and to pay for repairs to locomotives and other equipment.

We understand that the El Oro Mining & Railway Co. Ltd. was taken over some months ago by the National Railways of Mexico. The formal period for considering compensation terms is said to have begun on December 20, but Mexican reports state that the Government has taken over the line "as compensation for money owed by the company." The El Oro line, a British-owned concern, was 35 miles in length, of 3 ft. gauge. Various sections have been abandoned, and the track lifted, and the recent transfer is believed to have comprised 17 miles, including a main line which runs from Tultenango to El Oro, in the State of Mexico. At Tultenango it connects with the National Railways system.

President Manuel Avila Camacho of Mexico recently announced that negotiations were practically complete for the purchase by the Mexican Government, with Government bonds, of three other foreign-owned railways. The transaction, which had its origin during the administration of President Lazaro Cardenas, is stated to have been pending for four years. The properties include the British-owned Mexican Railway which runs from Mexico City to Vera Cruz, and which has 264 miles of main line and 172 miles of branch lines; the U.S.-owned Southern Pacific of Mexico, which runs between Nogales, Arizona, and Guadalajara, and which has 1,095 miles of main lines and 368 miles of branch lines; and the Canadian-owned Mexican North Western, which runs between Ciudad Juarez and Chihuahua, a distance of 472 miles.

Railways in Free China

When the full story of wartime railway construction in free China comes to be written, it is probable that it will reveal the most outstanding example of successful railway construction through difficult terrain and under extremely adverse conditions that has ever been told. Some indication of it has already been given in our columns from time to time, as reliable information has reached us, but since the Japanese occupation of Burma very little has become known in this country. Recently, however, a statement reached the U.S.A. through Chungking which indicates continued progress, and the inauguration for traffic of some lines which were shown as still proposed or under construction on the map we reproduced at page 467 of our issue for November 7, 1941.

Noteworthy in the present railway construction is the fact that most of the motive power, rolling stock, rails, and sleepers have

been retaken from the enemy. The shortage of steel, needed for China's armament industries, has been the economic reason for this. Railway construction labourers, disguised as farmers and peasants, are smuggled by night through the Chinese lines to aid the guerrillas in special destruction duties. Moving systematically from one part of occupied China to another, the guerrillas have dynamited long stretches of track, derailing troop trains and confiscating supplies. Before the Japanese military could be organised to take charge of the wreckage, Chinese workers had removed railway equipment to hiding places. A conspicuous example is the recapture of vital portions of the Chekiang-Kiangsi Railway. Chinese guerrillas thoroughly destroyed all the Japanese-captured sections of the 400-mile railway. Rails were carried away, roadbeds torn up, and bridges removed.

In Hunan province is one of Free China's most famous "guerrilla" railways, a line branching off from the Canton-Hankow Railway at Hengyang. When Hengyang was menaced by battles and bombardments in the region of Changsha, where the Chinese troops were thrice victorious, the Chinese shifted the new railway south to Kweilin in Kwangsi province, and they laid it north-west to Kweiyang, a noted medical centre. This railway today is being pushed towards Burma. Construction of the southern link was stopped when Burma was occupied.

In the north-west, a spur is being built from Sian, in Shensi province, northward to a rich coal-mining district, the site of what is stated to be the largest single coal-field in the world. From Paochi, formerly the western terminus of this railway, the line has been extended westward to Tienshui in south-western Kansu.

The mountainous nature of the terrain formerly held back the building of any large railway mileage in China's west. One of the few western railways in existence at the beginning of the present Japanese war with China was a short line in Yunnan province, the completion of which took more than 24 years. Timber, tin, iron, tung oil, and medicines have been shipped over this small railway. Large locomotives have replaced the former small ones. This railway will be linked with the Hunan-Burma route. Two new railways have been completed in this province alone since the war began.

Meanwhile, China is also making use of its highways and cross-country routes, and 33 national animal-transport routes are in constant use, connecting Chungking with fifteen provinces along approximately 15,000 miles of improved old Imperial roads, dirt trails, and modern highways. Officials at Chungking report that 65,000 pack animals (including ponies, burros, and camels), 60,000 carts and 20,000 junks, are being used in this ingenious and typically Chinese transport system, which must serve the military and civil life of the nation until the completion of its great new railways. A good example of this type of transport is provided by a report which has just reached us from India and states that, without using a single drop of petrol, commodities can now be transported between Hengyang (in southern Hunan) and Kwangyuan (in northern Szechwan) by steamships, junks, carts, pack animals, and carrying coolies, for a distance of 2,330 km. (1,450 miles) over rivers and highways. Directing this important link in Chinese inland transport, is the newly-established Szechuan-Hunan-Shensi Through Stage Transport Administration of the Chinese Ministry of Communications.

Staff and Labour Matters

Railway Wages

After the issue of Railway Staff National Tribunal Decision No. 9 the Associated Society of Locomotive Engineers & Firemen announced its dissatisfaction with the terms of the award and called an emergency national delegate conference which met on December 30 and 31, to consider what action should be taken on the award.

Before the conference, Mr. Allen, the General Secretary of the A.S.L.E. & F., stated that he was afraid that a resolution would be tabled at the conference which would result in strike action in some form. The executive, he said, with the best will in the world, felt that it might be impossible to resist pressure from the branches and the delegates would have a mandate to vote for whatever action they considered desirable. The position had been rendered more acute by the anomalies which existed. The method of dealing with railway wages and increases since the war had lacked uniformity. There was no objection to the lower-paid grades getting an increase, but members had not received corresponding advances. The wage application submitted to the tribunal had not been treated on its merits. A claim had been submitted for an increase on standard rates of wages of from 4s. to 12s. a week. The tribunal had given only 1s. a week on the war wage. Mr. Allen hoped that the gravity of the position would be recognised, and that some steps would be taken to meet it. He thought that a number of adjustments could take place which would avoid trouble, and he had communicated already with the Ministers of Labour and War Transport, and also the Railway Executive Committee.

Mr. Marchbank, General Secretary of the National Union of Railways, on the eve of the conference said the N.U.R. was not satisfied with present wage standards, but if any attempt was made to placate one section of railwaymen without consideration for the many thousands of other railway employees consequences would arise which would cause resentment from John O'Groats to Land's End. To talk of a transport strike, he said, was pure irresponsibility at this grave period of the war.

There was a danger that a wrong impression might be formed about the locomotive men's wage increases. In March, 1942, the associated society concluded a separate agreement with the companies granting 4s. a week to drivers, firemen and motormen. This had created a serious anomaly as the locomotive staff thus received 15s. in weekly war advance, while the remainder and the higher paid grades, such as guards and shunters, were in receipt of only 11s. Bitter resentment was expressed, particularly as the N.U.R. had lodged a claim for 10s. a week increase for all railwaymen. Later the locomotive men's union also made a further claim and both claims went to the tribunal. The tribunal awarded 5s. war advance, bringing the minimum war bonus for men in the traffic grades to 16s. This absorbed the 4s. granted earlier in the year to the A.S.L.E. & F. The higher-paid staff, generally, were thus brought to the same level.

The delegate conference of the A.S.L.E. & F. passed the following resolution by 49 votes to 10: "This delegate conference, representing 90 per cent. of the organised drivers, firemen, cleaners, and motormen employed on the main-line railways of the country, after due consideration of the award of the Railway Staff National Tribunal, desires to register its indignation

and protests at the nature of that decision. The conference recognises that the tribunal has, by its decision, perpetuated and aggravated what must now be described as a grave injustice to the staffs concerned. It cannot believe that any such policy is approved by the Ministers of Labour and War Transport, and therefore decides that an immediate approach should be made to those Ministers with a request that steps be taken by which negotiations can be reopened with the Railway Executive Committee and adjustments made which will remove the injustices referred to. This conference pledges itself to do everything in its power to strengthen the country's war effort at this critical stage. We expect, therefore, that this national loyalty will be respected by those responsible for the industrial peace of the country and, because of our strong belief in the merits of our case, we are prepared to stand adjourned until Friday, January 15, on which date we shall assemble again to hear the result of the approaches to the responsible government ministers. We must, however, give the grim reminder to all concerned that, since the majority of the delegates have a strike mandate, we place the entire responsibility for future peace in the industry and the welfare of the country on the shoulders of those responsible for the unjust and insulting award."

Australian Air-Line Operation in Wartime*

All forms of air transport, but particularly overseas trunk air lines, were formerly more closely allied to the fighting services than to civil transport. For many years the subsidies paid to civil air lines were paid from the Defence Budget; civil aviation was a branch of the Defence Department, and was administered by the Minister of Defence. A Controller of Civil Aviation was appointed in December, 1920, and in 1936 a Civil Aviation Board was established as a branch of the Defence Department. This board was disbanded early in 1939 when civil aviation administration was made a separate department under a Minister for Civil Aviation. Later in the same year, with the division of the defence arms into three separate Ministries under war conditions, civil aviation was joined with the Royal Australian Air Force under the Minister for Air.

A further point in this connection is that, for the past eighteen years, it has been a condition in the contract of subsidised airlines that all pilots, radio operators, and engineers should join the Air Force Reserve and there were also conditions under which the Air Force could take over aircraft and plant.

Civil aviation is not yet able to stand firmly on its own feet, but it has been fostered in many ways largely because of its close relation to defence. Even non-subsidised aviation undertakings enjoy free use of Government-owned aerodromes and ground organisation, and most pilots received their training with the Air Force or through the Government-fostered aero club flying schools.

The designs of civil and military aircraft have largely proceeded together and, apart from troop transport, many civil aeroplanes can be modified to serve the purpose of the

military version of the same type. The ground organisation for civil flying can be used fully by the Air Force in time of war. For many years, civil aviation has been recognised and developed as an adjunct to Australian defence, and without civil aviation a much larger Air Force would have been necessary.

On the outbreak of war, the activities of civil air lines were promptly reviewed. Some lines ceased to operate and the schedules of others were reduced. The Singapore service was reduced from three times to twice a week, each way, and, at the same time, the "all first class mail by air" scheme was dropped and the air-mail surcharge was reintroduced. Many civil aerodromes were requisitioned, and many employees were transferred to the R.A.A.F., with far-reaching results for the air-line companies.

IMPORTANCE OF CIVIL AVIATION IN WARTIME

As the war developed, many things became apparent which were not fully anticipated. Civil aviation was expected to fade out, but it has been found that mail and passenger communications by air have become of even greater importance than in peacetime.

Air mail has meant much to men in the Forces both for official and private correspondence. The importance of air communication overseas has proved to be such that, had it not been maintained by civil concerns, it would have had to be operated by the Air Force. One reason for maintaining civil air communications is that Air Force machines and personnel would not be permitted over neutral countries.

Air lines have come to be rated high up in the scale of urgent national priority undertakings, and only such number of aircraft and personnel have been taken into the Air Force as will enable amended wartime air communications to be carried out. In view of the shortage of aircraft, aero engines, and personnel, this imposes an obligation on air lines to give the nation the maximum transport with the minimum of equipment. Accordingly, operations and traffic sections have been closely combed, and every item of loading and equipment has been investigated. Much of the consequent action taken was with great regret from a commercial viewpoint and it has not been popular with regular passengers.

Mails are now given absolute priority, and the Government exercises freely its right to demand priority for passengers directly associated with the war effort. Late demands for priority passengers often cause the cancellation or postponement of other bookings and the traffic department is in a constant upheaval arranging and rearranging these loadings.

When the Empire flying-boat services began operations, all major overhaul and engineering maintenance was centred at Southampton, in England. As the result of representations made after the international crisis of 1938, permission was given to establish full facilities at Sydney, where the organisation was just completed and in production when war broke out. This foresight enabled air mail services to be maintained when, without the alternative base at Sydney, it would have been impossible to do so.

Civil air-line operation was affected by the war earlier than other transport undertakings in Australia, and continues to function in close collaboration with the Air Force in equipment, supplies, and personnel. In case of final emergency, these could be declared part of the Air Force and applied as desired.

* Summary of an address by Mr. L. J. Brain, Operations Manager, Quantas Empire Airways, delivered to the New South Wales Centre of the Institute of Transport at Sydney on June 18, 1941, and recently reproduced in "The Journal of the Institute of Transport".

Argentine Railway Results

According to the statistics issued by the Instituto de Estudios Económicos del Transporte, the working results of all the Argentine railways during the financial year ended June 30, 1942, showed an encouraging improvement as compared with 1940-41, the global receipts of all the lines, both State and privately-owned, amounting to 528,912,000 pesos (£31,734,720), an increase of 48,739,000 pesos (£2,924,340), or just over 10 per cent. The improvement in revenue returns is mainly due to the heavier cereal and livestock traffic recorded, more particularly during the second half of the year. The increased tariffs which the companies were authorised to apply as from the beginning of April last came into force too late to affect the year's results to any marked extent. In any case, as the main object of this concession, which is limited to one year, is to enable the companies to restore the wage-cuts and resume their contributions to the pension fund, rather than to provide them with extra revenue, the gain accruing to the railway finances is, at best, problematical. Unfortunately, against higher receipts have to be set greatly-increased working costs, which, in the case of many of the lines, have more than absorbed the additional revenues. This applies more particularly to the foreign-owned railways, the net returns of which were the poorest recorded during the last ten years.

Although the gross earnings rose from 376,000,000 pesos (£22,560,000) in 1940-41 to 408,000,000 pesos (£24,480,000) in 1941-42, expenses in the latter year were 344,560,000 pesos (£20,673,600), as compared with 317,312,000 pesos (£19,038,720) in 1940-41. Despite this, the gross returns still showed a small margin of 4,780,000 pesos (£286,800) in favour of the financial year under review. But this meagre gain was

wiped out by the exchange losses which increased from 24,209,000 pesos (£1,452,540) to 29,292,000 pesos (£1,757,520). Thus, the net results of the year's working by the private railways, which in 1940-41 totalled 34,098,000 pesos (£2,045,880), amounted in 1941-42 to 34,395,000 pesos (£2,063,700), a figure which only permits a return on the invested capital of 1 per cent. State Railways earnings increased by 16,711,419 pesos (£1,002,685), or 16 per cent.

The aggregate goods tonnage carried amounted to 45,234,000, an increase of 5,520,000, or 13.9 per cent.; the increase on the ton-km. basis was 1,708,000,000, or 13 per cent. The gross goods receipts were 374,091,555 pesos (£22,445,493), an increase of 41,215,594 pesos (£2,472,936), or 12.3 per cent. The Buenos Ayres Great Southern Railway carried the heaviest tonnage, which amounted to just under 11,000,000 tons, an increase of 1,120,000 tons, or 11.4 per cent. But the railway which, on a percentage basis, improved its position most notably was the Argentine North Eastern, on which an increase of 278,000 tons represented one of 46 per cent. over the previous year. Goods tonnage on the State Railways increased by 1,179,000 tons, or 15.1 per cent., and receipts were 14,543,154 pesos, or 17.3 per cent., more than in 1940-41.

Passenger traffic on most of the railways also was heavier than in 1940-41; the exceptions were the Entre Ríos, which showed a decline of 3.6 per cent., the Province of Santa Fé (7.4), the Province of Buenos Aires (4.9), and the Buenos Aires Central (13.4). All the lines, however, with the exception of the Province of Buenos Aires and the Rosario-Puerto Belgrano, showed improved passenger receipts; the companies with the highest percentage increases were the Buenos Ayres Western (11.4), and the Argentine North Eastern (10.2).

On a passenger-km. basis there was an

increase in the case of the private lines, of 5.4 per cent., and, on the State Railways, of 10.1 per cent. The number of passengers carried by the State Railways was 1,010,000, or 10.1 per cent., more than in the previous year; the receipts were 1,519,225 pesos (£91,154), or 10.4 per cent., higher.

The tables at the foot of this page show the comparative figures for the years 1940-41 and 1941-42 relating to the working results of all the State and foreign-owned Argentine railways. (Pesos are converted throughout at the rate of 16 $\frac{2}{3}$ to the £).

The Transportation Club

On pages 68, 69 and 77 we reproduce illustrations of the Transportation Club, Wilton Crescent, S.W.1, which is being sponsored by the four British railways and London Transport, for American and Canadian officers in this country, who in peacetime were employed in the transport industry. The opening of the club by Sir Ronald Matthews, Chairman of the Railway Companies' Association, assisted by Mr. Averell Harriman, Special Assistant to the President, U.S.A., and Lt.-Colonel Unwin Simson, Administrative Secretary representing the High Commissioner for Canada, was recorded in our January 8 issue, on page 52.

Lt.-Colonel K. R. N. Speir, D.S.O., is Secretary of the club and the catering is in the hands of a committee under the chairmanship of Mr. R. A. P. Setterfield, Manager, Hotels, Refreshment Rooms & Restaurant Car Services, G.W.R. Miss P. M. Oxenford, Assistant to the Controller, L.M.S.R. Hotels, has taken a leading part in the decoration of the club, the furniture and the fittings of which have been supplied by the hotels of the British railways.

WORKING RESULTS FOR THE FINANCIAL YEAR 1941-42, COMPARED WITH THOSE FOR THE FINANCIAL PERIOD 1940-41

	Financial year		Inc. or dec.	Percentage
	1940-41	1941-42		
Goods				
Tons	39,714,000	45,234,000	+ 5,520,000	+ 13.8
Ton-km.	13,114,376,000	14,822,472,000	+ 1,708,096,000	+ 13.4
Passengers				
Number	165,208,000	172,675,000	+ 7,467,000	+ 4.5
Pass.-km.	4,635,150,000	4,922,014,000	+ 286,864,000	+ 6.1
Receipts (pesos)				
Goods	332,876,000 (£19,972,560)	374,091,000 (£22,445,493)	+ 41,215,000 (£2,472,936)	+ 12.3
Passengers	95,079,000 (£5,704,740)	102,429,000 (£6,145,740)	+ 7,350,000 (£441,000)	+ 7.7
Miscellaneous	52,218,000 (£3,133,080)	52,392,000 (£3,143,520)	+ 174,000 (£10,440)	+ 0.3
Total receipts (pesos)	480,173,000 (£28,810,380)	528,912,000 (£31,734,720)	+ 48,739,000 (£2,924,340)	+ 10.1

GROSS RECEIPTS FOR THE FINANCIAL YEAR 1941-42, COMPARED WITH THOSE FOR THE FINANCIAL PERIOD 1940-41

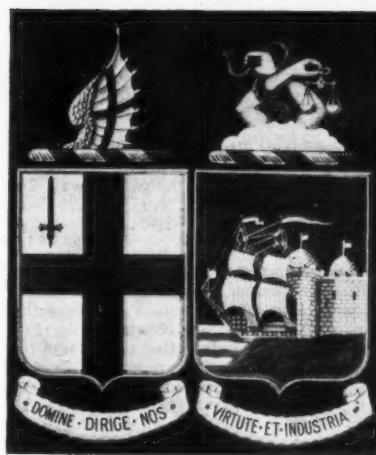
	Financial year		Inc. or dec. (pesos)	Percentage
	1940-41	1941-42		
B.A.G.S. and subsidiary lines				
Central Argentine	116,532,196 (£6,991,932)	126,776,917 (£7,606,614)	+ 10,244,721 (£614,682)	+ 8.7
B.A. Pacific	91,410,240 (£5,484,612)	97,633,031 (£5,857,980)	+ 6,222,791 (£373,368)	+ 6.2
B.A. Western	75,532,419 (£4,531,944)	76,254,256 (£4,572,258)	+ 723,837 (£43,428)	+ 0.9
Entre Ríos	41,775,754 (£2,506,536)	45,814,057 (£2,748,846)	+ 4,038,303 (£242,298)	+ 9.6
N.E. Argentine	11,816,256 (£708,978)	14,283,669 (£857,022)	+ 2,467,413 (£148,044)	+ 20.8
Total for British-owned companies	345,040,553 (£20,702,436)	370,406,676 (£22,224,402)	+ 25,366,123 (£1,521,966)	+ 7.3
Santa Fé Prov.				
Compañía General	14,358,450 (£861,510)	16,247,826 (£974,868)	+ 1,889,376 (£113,364)	+ 13.1
C. Buenos Aires	9,559,589 (£555,576)	11,982,728 (£718,962)	+ 2,723,139 (£163,386)	+ 29.4
R. P. Belgrano	4,490,562 (£269,436)	5,267,246 (£316,032)	+ 776,684 (£46,602)	+ 17.2
Total for private companies	3,070,099 (£184,206)	3,842,455 (£230,550)	+ 772,356 (£46,344)	+ 25.1
State Railways				
Total for all railways	376,219,253 (£22,573,158)	408,446,931 (£24,494,814)	+ 32,027,678 (£1,921,662)	+ 8.5
Grand total for all railways	480,173,038 (£28,810,380)	528,912,135 (£31,734,726)	+ 48,739,097 (£2,924,346)	+ 10.1

G.W.R. Rolling Stock Colours

During the last few months a change has been taking place in the colouring of the Great Western Railway rolling stock; the long familiar chocolate and cream of the passenger train coaches is now disappearing. This standard colouring has had to be relinquished as a wartime measure, but it is hoped to restore it again as soon as conditions permit. After considerable research into the economic use of pigments, a suitable utility coating has been evolved for the company's vehicles. Coaching stock, other than that of the Cornish Riviera, the Torbay Express, special saloons, and diesel cars, are being painted in one colour only, namely, reddish-brown, with a bronze colour-line at the waist. The roofs, previously white, will be painted black.

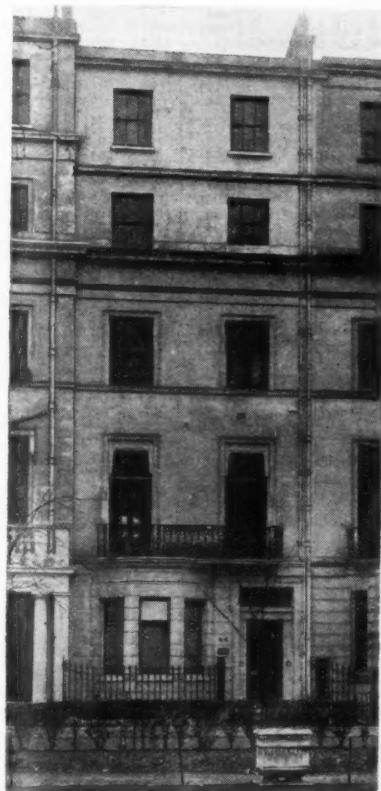
On some of the coaches the once familiar Coat of Arms has been re-introduced. This gives relief to the austere colouring of the passenger vehicles, and it is hoped to continue the use of the crest.

The repainting is not being carried through as a special measure, but as the vehicles go to the shops in the normal course they are being repainted in the new style. The process, therefore, of the change over from the long-familiar G.W.R. colours to the new wartime colours will be gradual.



Above: The Coat of Arms which is again being used on G.W.R. coaching stock and which relieves the reddish-brown austerity livery

Right: G.W.R. passenger coach in war time livery



Exterior view of the Transportation Club premises at 44, Wilton Crescent, S.W.1

(See article on opposite page and illustrations on pages 68 and 69)

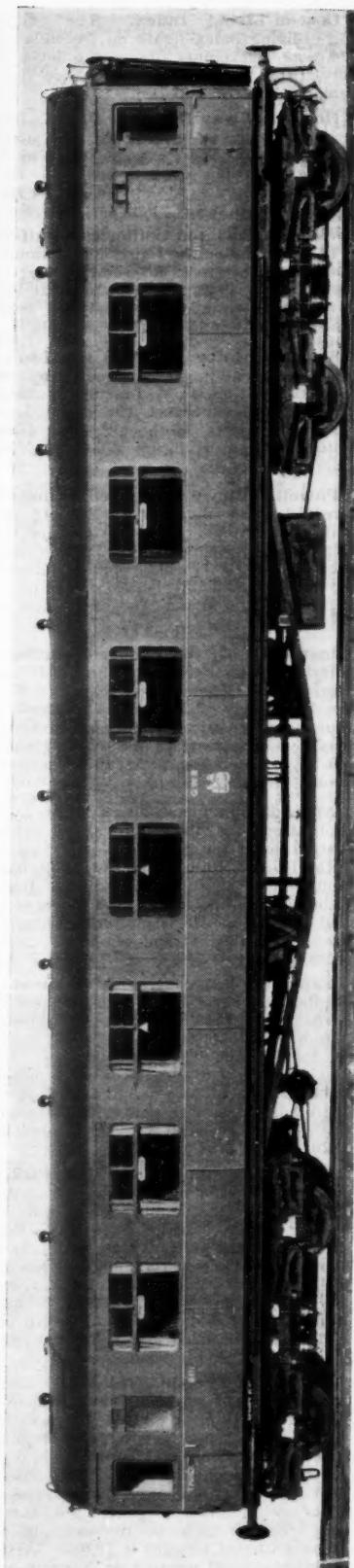
NEW TRAIN DESCRIPTION APPARATUS

(Continued from page 65)

between the transmitting and receiving points, with "receiver full" indication, on the appearance of which the transmitter becomes temporarily ineffective. The indications displayed on the receiver, covering, say, 1st, 2nd, and 3rd train, may be automatically cleared and stepped up by track circuit or treadle control, as trains arrive and depart. The cancelling facilities are especially complete and include the cancellation of: (1) description set up but not transmitted (this is called the re-set feature); (2) description already transmitted and, when this is not the last one sent, the stepping up of those subsequently transmitted, or the replacement of the one cancelled by a new one. Co-operative control between the signalmen concerned can be incorporated in this working.

A description can be interpolated manually in any describing position to cover the case of a train entering the section of line somewhere between the transmitting and receiving points and automatic re-transmission of descriptions can be provided. Where trains enter a common section of line from branches themselves equipped with describing apparatus, interpolation can be automatically effected, and crossover movements, as between fast and slow, or passenger and goods lines, can also be fully covered.

Two line wires only are required for uni-directional working, or three wires for working in both directions, however many separate tracks there may be. The apparatus is of robust construction, as already used with success in remote control and supervision of power switch gear; the relays are of automatic telephone type but work with higher contact pressures to ensure the utmost degree of reliability.



Notes and News

Cost-of-Living Index.—The official cost-of-living index figure on December 1 last was 100 points above the level of July, 1914, and showed no change compared with October 31 last.

Home Railway Dividend Dates.—The final dividend statements of the home railway companies are expected to be made on the following dates:—Southern, and L.N.E.R., February 18; G.W.R., February 19; and L.M.S.R., February 12.

Welsh Associated Collieries Limited.—The dividend on the 5½ per cent. cumulative preference stock for the half-year to December 31, 1942 (less income tax at 10s. in the £) will be paid on January 30, 1943. This is the only stock held by the public.

Scottish Motor Traction Co. Ltd.—The Glasgow address of this company has been changed as from January 1, 1943, from 140, Salkeld Street, Glasgow, C.5, to c/o The Western Motor Co. Ltd., 62-4, Saltoun Street, Hillhead, Glasgow, W.2. Tel.: Western 1681.

Powell Duffryn Associated Collieries Limited.—The dividend on the 4½ per cent. cumulative preference stock for the half-year to December 31, 1942 (less income tax at 10s. in the £) will be paid on January 20, 1943, to holders registered on the books of the company at the close of business on December 29, 1942.

Institute of Transport Luncheon Meeting.—Major-General John C. H. Lee, Commanding-General of the Services Supply, U.S. Army (E.T.O.), has accepted an invitation to address the next luncheon meeting of the Institute of Transport, which is to be held on February 2 at the Connaught Rooms, Great Queen Street, W.C.2.

Agreed Charges.—Twenty-nine more applications for the approval of agreed charges under the provisions of Section 37 of the Road & Rail Traffic Act, 1933, have been lodged with the Railway Rates Tribunal. Notices of objection were to be filed with the Registrar at Wellington House, 125-130, Strand, London, on or before January 12.

Caprotti Valve Gears Limited.—Trading profit for the year ended August 31, 1942, was £4,119. For the eight months to August 31, 1941, it was £372. The change in date ending the financial year was decided upon for reasons of convenience. Debit balance now remaining is £11,991. No dividend has been paid on the cumulative preference shares since December 31, 1928.

Road Accidents in November, 1942.—The return issued by the Minister of War Transport of the number of persons reported to have died, or to have been injured, as a result of road accidents in Great Britain during the month of November last shows 681 deaths (compared with 828 in November, 1941), 3,217 seriously injured (compared with 4,182 in November, 1941), and 9,263 slightly injured (compared with 12,460 in November, 1941).

Heenan & Froude Limited.—Net profit for the year to August 31, 1942, after making provision of £30,000 for taxation was £30,505, and £11,787 was brought forward. The final dividend is again 5 per cent., less tax, making 10 per cent. for the year, less tax (same) and the bonus of 5 per cent. less tax is repeated. A transfer of £5,000 is made to reserve, and the amount carried forward is £8,630. At the ordinary general meeting on November 30 it was stated by Mr. David H. M. Boyle,

who presided in the absence of the Chairman, that the company both in the destructor department and in the other departments had in suspense a fair volume of important contracts secured in pre-war times, which it was expected would materially assist the difficult transition period following the cessation of hostilities.

Beira and Rhodesia Railways Receipts.—The gross receipts of the Beira-Umtali section of the Beira Railway Co. Ltd. for October, 1942, were £2,72,729, and the receipts of the Rhodesia Railways Limited for the same period were £533,943.

Conversion of French Railway Loans.—Reuters states, quoting the official German news agency from Paris, that the Société Nationale des Chemins de Fer Français is beginning the conversion of previous loans to the amount of fr. 4·3 milliards. The previous loans, which were at 6 per cent., are being replaced by 3½ per cent. bonds.

Jonas Woodhead & Sons Ltd.—Profit for the year to August 31, 1942, subject to provision for taxation, was £95,000 (£87,848). Transfers are made of £75,000 (£65,000) to reserve for taxation and contingencies and of £5,000 (same) to staff pensions, and £14,808 (£10,187) was brought in. Dividend on the ordinary shares is again 10 per cent., and £16,753 is carried forward.

Great Western of Brazil Railway Co. Ltd.—Payment is announced for January 30 of 3 per cent. interest on the 6 per cent. permanent debenture stock and of 2 per cent. interest on the 4 per cent. debentures in respect of the half-year ended December 31, 1940, together with interest on arrears. Similar payments on these stocks for the half-year to June 30, 1940, were made on November 3 last.

Institute of Transport Meeting.—At its last meeting at Bristol, the Western Section of the Institute of Transport welcomed as its speaker Colonel N. A. Ryan, Acting Chief of Transportation Corps, U.S. Army (E.T.O.), who gave an address on the American railroads, with special reference to the Chicago, Milwaukee, St. Paul & Pacific Railroad, of which he is General Manager (lines West). The meeting attracted a large attendance.

Lord Stamp Memorial Lecture.—Friends of the late Lord Stamp who, at the time of his death on April 17, 1941, as the result of enemy action, was Chairman & President of the Executive of the L.M.S.R., have endowed a University of London memorial lecture in his memory, and have transferred £3,800 to the university. The lecture will be on the application of economics or statistics to practical problems of general interest, treated from a scientific standpoint, and will be open to the public without fee.

The Institute of Transport.—The report of the council shows that a special committee has considered the practicability of establishing a Metropolitan Section, but in its view the subject could best be handled after the war. In planning the programme of the ensuing year, arrangements were made for the holding of an experimental discussion group on transport problems, to ascertain whether the formation of these groups would be a useful development in the institute's activities. The examinations were held on May 4, 5 and 6, 1942. Centres have been established at London, Manchester, Liverpool, Leeds, Birmingham, Bristol, Glasgow, and Belfast; also in Argentina at Buenos Aires, in South Africa

at Bulawayo, Capetown, Durban, Johannesburg, and Port Elizabeth. By means of correspondence courses for members in the Services, examinations have been held also at the following prisoner-of-war camps in Germany:—Oflag VIB, Oflag IXA, and Stalag XXA.

Stewarts and Lloyds of South Africa Limited.—Net profit for the year to June 30, 1942, was £246,784 (£272,238). The sum of £50,000 is allocated to stock reserve and £67,000 (£105,000) is transferred to contingencies reserve. Ordinary final dividend is maintained at 10 per cent., making with the interim of 10 per cent.

British and Irish Railway Stocks and Shares

Stocks	Highest 1942	Lowest 1942	Prices	
			Jan. 8, 1943	Rise/ Fall
G.W.R.				
Cons. Ord.	58	39	60	+ 3
5% Con. Pref.	115½	105½	118	+ 5½
5% Red. Pref. (1950)	109½	103½	108	+ 1
5% Rt. Charge	133½	123½	133½	+ 4
5% Cons. Guar.	130½	121½	132	+ 4
4% Deb.	117	105	116	+ 3
4½% Deb.	118	108	116½	+ 3
4½% Deb.	125	113	121½	+ 2
5% Deb.	137	126	134	+ 3½
2½ Deb.	77	70	75	—
L.M.S.R.				
Ord.	28½	16½	29½	+ 1½
4% Pref. (1923)	63½	50	64½	+ 1½
4% Pref.	76	67½	78	+ 1½
5% Red. Pref. (1955)	103½	94½	102½	+ 1
4% Guar.	104½	97	106	+ 4
4% Deb.	108½	101	109	+ 2½
5% Red. Deb. (1952)	111	107½	109	+ 1
L.N.E.R.				
5% Pref. Ord.	94	22	118	+ 2½
Def. Ord.	5	18	5	—
4% First Pref.	62	49½	63½	+ 2
4% Second Pref.	32½	18½	33½	+ 2½
5% Red. Pref. (1955)	95½	79	96½	+ 1½
4% First Guar.	98	88	102	+ 4
4% Second Guar.	90	78	92	+ 2½
3% Deb.	85	76	85	+ 2½
5% Deb.	106½	100	108	+ 2
5% Red. Deb. (1947)	106	103	104½	—
4½% Sinking Fund	106	102½	105½	—
Red. Deb.				
SOUTHERN				
Pref. Ord.	77	61½	77	+ 2½
Def. Ord.	23½	14½	24	+ 1
5% Pref.	112½	104	117½	+ 7
5% Red. Pref. (1964)	110½	105	109½	+ 4
5% Guar. Pref.	131	121½	132	+ 4
5% Red. Guar. (1951)	115½	109	113½	+ 1
FORTH BRIDGE				
4% Deb.	109½	108	108	+ 2
4% Guar.	105½	100	130½	—
L.P.T.B.				
4½% "A"	122½	111	120½	+ 2
5% "A"	131½	122	130½	+ 2
3½% Guar. (1967-72)	95½	97½	98	—
5% "B"	121	111½	119½	+ 3
"C"	56½	38	56½	+ 1½
MERSEY				
Ord.	27½	20½	27	+ 1
3½% Perp. Pref.	61½	56	59	—
4% Perp. Deb.	102½	99½	100	—
3% Perp. Deb.	80½	76	78	—
IRELAND				
BELFAST & C.D.				
Ord.	9	4	9	—
G. NORTHERN				
Ord.	29½	12½	28	+ 1
G. SOUTHERN				
Ord.	25	10	22	+ 2
Preb.	29	12½	26½	+ 3½
Guar.	53	35½	51	+ 2
Deb.	71½	55½	69½	+ 1½

§ ex-dividend

January 15, 1943

THE RAILWAY GAZETTE

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paid in October, a total distribution of 20 per cent. for the year, the same as for the previous year. After providing £5,450 for debenture redemption the amount carried forward is £85,232 (£78,397).

Canadian National Railways Oil Interests.—Canadian National Railways has formed a subsidiary, Cannar Oils Limited, to carry out its programme for drilling in the Vermillion Oil Fields. It is proposed to invite tenders for the drilling of all or part of 50 wells.

Metropolitan Graduate & Student Society.—Mr. H. M. Cleminson will speak on "Post-War Planning" at a meeting of the Metropolitan Graduate & Student Society, Institute of Transport, to be held on January 23, at 2.15 p.m., at the Institution of Electrical Engineers, Savoy Place, Victoria Embankment, W.C.2.

Powell Duffryn Purchase of Cory Brothers.—The Powell Duffryn Group announces that the acquisition by Powell Duffryn Associated Collieries Limited of the shares of Cory Brothers & Co. Ltd. was a cash transaction and did not call for the issue of share capital by any member of the group. As already announced, Powell Duffryn Associated Collieries Limited has issued £500,000 4 per cent. debenture stock at 100½ per cent. ranking for interest from January 1, 1943.

Crompton Parkinson Limited.—For the year ended September 30, 1942, the profit from trading, dividends on investments, etc., after making provision for war damage contributions, E.P.T., income tax, and contingencies, amounted to £438,248 (£419,154). Deduct depreciation £25,000 and directors' fees £2,750, which leaves net profit for the year £410,498 (£391,404). Balance brought in is £280,208 (£187,360), making a total of £690,706 (£578,764). Dividends of 20 per cent. for the year are maintained on the ordinary and "A" ordinary stocks by final dividends of 7½ per cent. plus a cash bonus of 5 per cent.,

and £5,000 is again appropriated to benevolent fund, leaving £389,744 to be carried forward.

Irish Traffics to be "Carriage Paid."

Burns & Laird Lines Limited and Clyde Shipping Co. Ltd. have given notice that on and from January 1, 1943, all traffic to and from Ireland, carried at goods rates, will only be accepted for conveyance if consigned "carriage paid" (except cattle, sheep, pigs, fresh fruit, and fresh vegetables, including potatoes, which may be accepted for conveyance "carriage forward" up to and including March 31).

Canadian National Railways.—Gross earnings during November last were \$31,866,000, an increase of \$4,573,034 over November, 1941, and operating expenses were \$25,263,856 an advance of \$3,690,726, leaving net earnings \$882,308 higher at \$6,602,143. Aggregate gross earnings for the 11 months from January 1, 1942, were \$338,695,000, an increase of \$62,329,513 as compared with the similar period of 1941, and net earnings of \$78,266,506 showed an improvement of \$17,918,615.

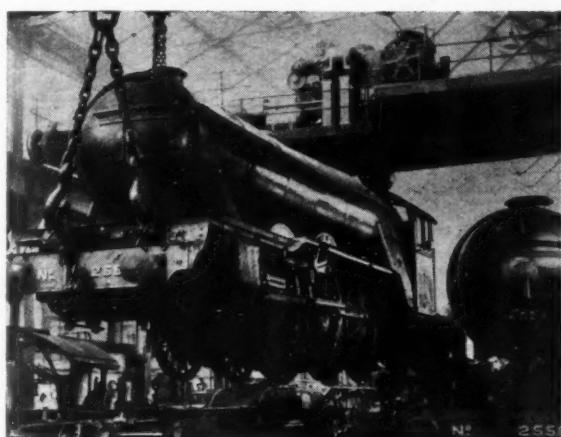
Turner & Newall Limited.—Trading profits for the year to September 30, 1942, before depreciation and taxation, amounted to £2,407,550 (£2,545,721). Provision for taxation required £1,686,218 (£1,847,762), and depreciation £188,196 (£188,908). Net trading profit amounted to £530,840 (£506,472). Final dividend on the ordinary is 8½ per cent., making 12½ per cent. (same) for the year. A sum of £10,000 (same) is allocated to welfare trust, and of £100,000 (same) to general reserve, leaving £78,440 (£65,189) to be carried forward.

Tube Investments Limited.—Report for the year to October 31, 1942, states that revenue was £612,559; add balance brought forward £163,082, making £775,641. Interim dividends on the preference and ordinary stocks and liaison shares absorbed £202,288. £100,000 was added to reserve fund and £100,000 to wartime contingencies

fund, leaving a balance of £373,353. From this amount it is proposed to apply £14,499 to preference dividends, less tax; £162,789 to final dividend on ordinary stock of 10 per cent., less tax, making 20 per cent. for the year, and £25,000 to dividend on liaison ordinary shares at the same rate, relatively as on the ordinary stock, carrying forward £171,065.

East Kent Road Car Co. Ltd.—This subsidiary of the Southern Railway Company and of B.E.T. Omnibus Services Limited reports, for the year to September 30, 1942, traffic receipts and other income amounting to £793,875 (£672,943). After providing for operating, maintenance, and administrative expenses £374,376 (£338,582), Road Acts duties, taxes, etc., £306,997 (£149,637), depreciation and renewals £80,000 (same), and other items, there remains a net revenue of £27,715 (£98,216). General reserve gets £10,000 (same), and preference dividend again takes £13,000. Dividend on the ordinary shares is 8 per cent. (same) requiring £36,000, and the balance forward is £23,587 (£54,872).

Permanent Way Institution.—A meeting of the Manchester & Liverpool Section will be held in the staff dining room, Hunt's Bank Offices, Manchester, tomorrow (January 16), at 3 p.m., when, at the conclusion of other business, a lecture illustrated by a film, on the "Reconstruction of Frodsham Viaduct" will be given by Mr. R. V. Hughes, A.M.Inst.C.E. The riven spans of the Weston and Weaver Viaducts near Frodsham were strengthened in 1938-39 by conversion from cast iron and steel construction into reinforced-concrete arches; traffic is maintained over the viaducts throughout the work. The work was done by direct labour under the supervision of the Resident Engineer, Mr. W. F. Beatty, B.Sc., A.M.Inst.C.E. Mr. R. V. Hughes, who acted as his assistant on the site, took some cine-photographs of part of this work, and these have been pieced together to form a record of the reconstruction.



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A REAL WAR JOB**

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IN CERTAIN CIRCUMSTANCES THE LOCO
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MEN ARE BROUGHT BACK TO LOCOS.

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REBUILT & PRESSED INTO SERVICE.

EVERY NEW LOCOMOTIVE
MADE SPEEDS VICTORY.

Two further examples of the posters which the Ministry of Supply is having displayed at locomotive-building works.
A selection of the posters was reproduced in our December 18 & 25 issue, page 612

Railway Stock Market

Home railway securities have again been a prominent feature of active Stock Exchange markets, and on balance further good gains have been recorded. The coming dividend statements, and the attractive yields still obtainable, continued to attract attention to junior stocks, and elsewhere, prior charges participated strongly in the upward trend in front-rank investment stocks; there was general recognition of the very satisfactory yields, reference to which was made in these notes last week. Elsewhere, improvement has been recorded in L.M.S.R. 1923 preference, and also in L.N.E.R. first preference, which, however, still show yields exceeding 6 per cent. Southern preferred, the return on which is not far short of 6½ per cent., were also favoured. The view has gained ground in some quarters that, on the basis of the financial agreement, which is to run until at least one year after the war, the above-mentioned preference stocks of the L.M.S.R. and L.N.E.R. are considerably undervalued at current prices in relation to those of the Great Western and Southern, yields on which are now only 4½ per cent. Great Western and Southern preferences are, however, trustee stocks, and the relative scarcity of stocks coming into this category has, of course, had an important influence on their quotations. Despite the general advance in values, yields on all classes of home railway securities continue to com-

pare favourably with those on securities of a similar status in other sections of the Stock Exchange. So far as can be judged, by far the greater part of recent demand has been on behalf of investors seeking long-term investments. In fact, the largest gains have been among the prior charges, some of which have risen several points. The possibility of fractionally better dividends on the junior issues has naturally continued to have a beneficial influence on sentiment generally, and the trend in these stocks will no doubt be governed considerably by next month's dividend decisions. It is, of course, realised that the fixed rental under the financial agreement will not permit of more than very small dividend increases, even allowing for the possibility of improvement in ancillary revenue. If, however, hopes of fractionally better payments were realised it would create an excellent impression, particularly as it is being assumed that increases would not be made unless there were considered to be reasonable prospects of the slightly better payments being maintained in future. In any case, dividends at the rates paid for 1941 can be regarded as assured. Moreover, by reason of the rental agreement, dividends and interest payments on prior charge stocks can be considered as in effect guaranteed by the Government.

Compared with a week ago, Great Western ordinary has risen further from

58½ to 61½ at the time of writing, the 4 per cent. debentures from 112½ to 116½, the guaranteed stock from 129 to 133½, and the 5 per cent. preference from 114 to 118. L.M.S.R. ordinary eased from 29½ to 29½; the senior preference improved from 76½ to 78½, the 1923 preference from 64 to 64½, the guaranteed stock from 102½ to 106, and the 4 per cent. debentures from 107½ to 109. L.N.E.R. first preference has risen on balance from 63 to 64, the second preference from 33 to 34, the first guaranteed from 98½ to 102, and the second guaranteed from 90½ to 92. L.N.E.R. 4 per cent. debentures rose from 106 to 108, and the 3 per cent. debentures from 83 to 86. L.N.E.R. deferred and preferred reacted slightly to 5 and 11½ respectively, but continued to attract speculative attention as a small-priced means of participating in the trends of the home railway stock market. Southern deferred at 24 was unchanged on balance; the preferred rose from 75½ to 78½, the 5 per cent. preference from 111½ to 118, and the 4 per cent. debentures from 112 to 116. London Transport "C" improved from 55½ to 57, but here also, gains were most marked in the prior stocks; the 5 per cent. "B" was 120½, compared with 117½ a week ago.

Argentine and other foreign railway stocks showed moderate response to the buoyant trend of Stock Exchange markets. Antofagasta issues were good, and United of Havana debentures were higher at 48½. Canadian Pacifics were better on talk of dividend possibilities.

Traffic Table and Stock Prices of Overseas and Foreign Railways

Railways	Miles open	Week Ending	Traffic for Week			No. of Weeks	Aggregate Traffics to date			Shares or Stock	Prices						
			Total this year	Inc. or Dec. compared with 1941/2			1942/3	1941/2	Increase or Decrease		Highest 1942	Lowest 1942	Jan. 6, 1943	Jan. 6, 1943	Yield % Gen. Net		
South & Central America																	
Antofagasta (Chili) & Bolivia	834	3.1.43	£ 26,570	+ 9,950	1	£ 26,570	£ 16,620	£ 9,950	Ord. Stk.	14	7½	10	Nil	Nil			
Argentine North Eastern	753	2.1.43	9,138	+ 480	27	350,976	301,842	+ 49,134	6 p.c. Deb.	6 1/2	3	6	Nil	Nil			
Bolivar	174	Dec., 1942	6,234	+ 1,743	52	59,762	47,694	+ 12,058	Bonds	20½	9	20½	Nil	Nil			
Brazil	...								Ord. Stk.	7½	4	6	Nil	Nil			
Buenos Ayres & Pacific	2,807	2.1.43	110,100	+ 23,700	27	2,514,240	2,130,180	+ 321,060	Ord. Stk.	7½	4	6	Nil	Nil			
Buenos Ayres Great Southern	5,080	2.1.43	172,200	+ 8,040	27	3,897,780	3,635,340	+ 262,440	Ord. Stk.	7½	4	6	Nil	Nil			
Buenos Ayres Western	1,930	2.1.43	51,120	+ 5,640	27	1,404,960	1,336,980	+ 67,980	Ord. Stk.	12½	6	12½	Nil	Nil			
Central Argentine	3,700	2.1.43	140,835	+ 44,655	27	3,428,817	2,843,493	+ 585,324	Dfd.	3½	2½	4½	Nil	Nil			
Cent. Uruguay of M. Video	972	26.12.42	27,965	+ 3,731	26	586,029	592,853	- 6,824	Ord. Stk.	8	4	5	Nil	Nil			
Costa Rica	262	Nov. 1942	13,585	+ 9,493	23	64,960	114,236	- 49,276	Stk.	16½	11	14	Nil	Nil			
Donda	70	Nov. 1942	16,530	+ 3,470	48	173,705	136,030	+ 37,675	I Mt. Db.	90½	89	86½	6½	6½			
Entre Rios	808	2.1.43	16,902	+ 5,082	27	493,314	435,642	+ 57,672	Ord. Stk.	9½	4½	8	Nil	Nil			
Great Western of Brazil	1,030	31.12.42	14,600	+ 7,300	52A	639,800	544,200	+ 95,600	Ord. Sh.	33½	9½	42½	Nil	Nil			
International of Cl. Amer.	794	Nov., 1942	\$481,524	\$50,446	52	\$5,554,318	\$5,097,659	+ \$456,659	Ist Pref.	1½	5/3	2	Nil	Nil			
Interoceanic of Mexico	...								5 p.c. Deb.	11½	5	8½	Nil	Nil			
La Guaira & Caracas	22½	Dec., 1942	9,560	+ 3,885	52	90,370	78,050	- 12,320	Ord. Stk.	12½	3½	5½	Nil	Nil			
Leopoldina	...	26.12.42	42,668	+ 8,768	52	1,586,594	1,382,049	+ 204,545	Ord. Stk.	6½	3½	5½	Nil	Nil			
Mexican	483	31.12.42	ps. 532,800	ps. 25,000	27	ps. 7,688,900	ps. 7,902,800	+ ps. 233,900	Ord. Stk.	1			Nil	Nil			
Midland of Uruguay	319	Oct., 1942	13,987	+ 4,700	52	49,979	54,791	- 4,812	Ord. Sh.	77½	3½	71	—	—			
Nitrate	382	31.12.42	6,331	+ 884	52	188,496	145,834	+ 42,662	Pr. Lt. Stk.	53	40	50	11½	11½			
Paraguay Central	274	1.1.43	\$3,452,000	+\$599,000	27	\$102,542,000	\$94,041,000	+\$8,501,000	Ord. Sh.	19½	5½	17	Nil	Nil			
Petroleum Corporation	1,059	Dec., 1942	83,045	+ 6,346	27	497,667	432,542	+ 65,125	Pr. Lt. Stk.	19½	5½	17	Nil	Nil			
Salvador	...	100	Nov., 1942	€ 84,000	+ c 31,000	22	c 320,000	c 244,172	c 75,828	Ord. Stk.	59	41	58	3½	3½		
San Paulo	...	153½	27.12.42	36,998	+ 4,523	1,921,802	1,898,334	+ 23,468	Ord. Sh.	59	41	58	3½	3½			
Talar	160	Nov., 1942	5,563	+ 2,223	21	25,403	25,330	- 73	Ord. Sh.	41	23/4	32½	Nil	Nil			
United of Havana	1,346	2.1.43	58,600	+ 40,399	1	1,182,741	520,524	+ 662,217	Ord. Stk.	41½	8½	2½	8	Nil			
Uruguay Northern	73	Oct., 1942	1,425	+ 38	19	4,730	5,392	- 662	Ord. Stk.	—	—	—	—	—			
Canada	17,039	21.12.42	1,162,400	+ 209,200	51	49,812,600	42,887,600	+ 6,925,000	Ord. Stk.	16½	9½	17½	Nil	Nil			
India†	Barbi Light	202	Oct., 1942	13,747	- 255	30	107,747	101,002	+ 5,745	—	—	—	—	—			
Bengal & North Western	2,090	Nov., 1942	264,975	- 33,007	8	449,400	561,082	- 111,682	Ord. Stk.	102½	88	101½	4	4			
Bengal-Nagpur	3,267	10.8.42	274,725	+ 10,341	19	3,712,696	3,407,058	+ 305,638	Ord. Stk.	105½	87	106½	5½	5½			
Madras & Southern Mahratta	2,939	31.7.42	341,625	+ 133,549	18	2,714,939	2,473,086	+ 241,853	—	—	—	—	—				
Rohilkund & Kumaon	571	Nov., 1942	555,750	+ 5,072	8	115,950	99,909	+ 16,041	—	—	—	—	—				
South Indian	2,402	31.7.42	197,725	+ 31,400	18	2,246,577	1,759,595	+ 486,982	Ord. Stk.	103½	88½	101½	4½	4½			
Various	Egyptian Delta	607	20.10.42	13,364	+ 1,277	31	224,460	157,047	+ 67,413	Prf. Sh.	5½	35	3½	Nil	Nil		
Manila	...	277	Nov., 1942	40,498	+ 18,788	20	159,912	103,592	+ 56,320	B. Deb.	44	35	42	8½	8½		
Nigerian	...	1,900	29.7.42	51,026	+ 12,476	19	1,212,844	1,122,822	+ 90,022	Inc. Deb.	95	90	93½	6	6		
South Africa	...	13,291	14.11.42	789,575	+ 15,752	34	25,695,697	24,696,661	+ 999,036	—	—	—	—	—			
Victoria	...	4,774	Sept., 1942	1,380,155	+ 327,758	—	—	—	—	—	—	—	—	—			

Note. Yields are based on the approximate current prices and are within a fraction of 1/2

† Receipts are calculated @ Is. 6d. to the rupee

Argentine traffics are given in sterling calculated @ 16½ pesos to the £

‡ ex dividend